

<400> 465

agcgggctaa	accccgggtcc	cgccgtaccc	atgaaggacc	acgacgccat	caagctcttc	60
gtggggcaga	tcccgcgggg	cttggacgag	caggacctca	agccgctgtt	cgaggagttc	120
ggccgcatct	acgagctgac	ggtgctgaag	gaccggctca	ccggcctcca	caaaggctgt	180
gccttcctca	cctactgcgc	ccgggactct	gctctcaagg	cccagagtgc	actgcacgag	240
cagaagaccc	tgccagggag	gaccgaaagc	tgtttgtggg	gatgctgggc	aagcagcagg	300
gtgaggagga	cgtcagacgc	ctgttccagc	cctttggcca	catcgaggag	tgcacggtcc	360
tgcggagtcc	tgacggcacc	agtaaaggct	gtgcctttgt	gaagttcggg	agtcaagggg	420
aagctcaggc	ggccatccgg	ggtctgcacg	gcagccggac	catggcgggc	gcctcgtcca	480
gcctcgtggt	caagctggcg	gacaccgacc	gggagcgcgc	gctgcggcgg	atgcagcaga	540
tggccggcca	cctgggcgcc	ttccaccccg	cgccactgcc	gctagggggc	tgcggcgcct	600
acaccacggc	gacctgcag	caccaggcgg	ccctgctggc	ggcggcacag	ggcccaggcc	660
taggcccgtt	ggcggcagtg	gcggcccaga	tgcaacacgt	ggcggccttt	agcctggtag	720
ctgcgcctct	gttgcccgcg	gcagcagcca	actccccgcc	tggcagcggc	cctggcaccc	780
tcccaggtct	tccggcgccc	atcggggctc	atggattcgg	ccctctgacc	cccagacca	840
atggccagcc	gggctccgac	acgtcttaca	ataacgggct	ctccccctat	ccagcccaga	900
gccccggcgt	ggctgacccc	ctgcagcagg	cctacgttgg	gatgcaccac	tacgcagcag	960
cctatccgtc	ggcctatgcc	ccagttagca	cagcttttcc	ccagcagcct	tcagccctgc	1020
cccagcagca	gagagaaggc	cccgaaggct	gtaacctctt	catctatcac	ctgcctcagg	1080
agtttggtga	tgcggaactc	atacagacat	tcctgccctt	tggagccgtt	gtctctgcta	1140
aagtctttgt	ggatcgagcc	accaaccaga	gcaagtgttt	tgggtttgtt	agttttgaca	1200
atccaactag	tgcccagact	gctattcagg	cgatgaatgg	ctttcaaatt	ggcatgaaga	1260
ggctcaaggt	ccagctaaag	cggcccaagg	atgccaaccg	gccttactga	cctgctttca	1320
ctgaccagcc	acagaaagaa	acagaagagt	gagaagaaag	gagaggaaaa	gcacagaaac	1380
gcttgagcag	cccttcccga	aggagcagct	gcggacggag	gtggatcgga	cccaaggctg	1440
gtgcctgggg	ctaaggccac	tctaaggatt	gtttttatca	agtgggttgt	tctgtgcctg	1500
cagcatagag	cgcaggctgg	cagagcaaata	agggtgtgtg	aggagtgact	gtccagggga	1560
accagcagag	ggcgttgggg	gtgccaaggg	cttctccgca	agggaagccc	agatttactt	1620

ctttcaaaat catatcattc cttagagttt agggaccaaa ggactattgc tttttaaga 1680
atatatatat ctatataaat taaaacaaag aaacaaacaa aaaaaaaca agacaaacaa 1740
ctacaaaaaa agacagtata gagtctcata aaagctgcct ttaaatatcc ctaggagaca 1800
gggtgaagga gacccttgac agccccagcc taggcagatg ggggctgtgg aaagattgtt 1860
ctgtgtctca ttcctcttta agccactccc ccaccctgcc cttttaaaaa taattaagga 1920
tttgaggctc aggctcacat gcaggtaatt agaacgttat ggaagcagtg aaccacaaat 1980
ccacaatccc caaactcaga gtgcatccca gaagaggccc caggcagagc tcaggttggc 2040
cctggccttt gccatcccgg gagggcccct agccagcaag agtgggattg ctttctctgt 2100
ggaaccactg cttccccagg cgggaagaaa gagggagtgc tggccacctg agcctttccc 2160
ttgccaatcc aggtagacag aggccctgcc tttggctgag ctgagacacc tctgtttcc 2220
cttccccttg aaccagtccc agtgtcccct tgctccaggc taccttctgt ctcttagtct 2280
aagtttgccc acctgtaaag tagattcagg atatctgtag agggctgtga caacagactt 2340
ggaaggtttg ctactgtata tactgccatt gagaagggga aatttttcaa tatgtagaag 2400
cttcagaatt agaggtcctt ctttacccca gacctgggag ggaagtagat gttttgcca 2460
aatacttctt cattccttta aaaactacat ctttctt 2497

<210> 466

<211> 3965

<212> DNA

<213> Homo sapiens

<400> 466

aggctgcata tgatcagcca tttgatgact tagggacata ggataattac cctggagcat 60
gactgaatca gaattcacia ttaattttctc cagactgtgg gcctcttagt agttcatggt 120
tttagcttag tagttcatgg ttttagtgat ctgtcttttc agtcggtatc acctgtcact 180
cctcagttcg ttagctacta gcaggaaatg tagtctaaaa aaaatcctcc tgtagcattc 240
ccagaggtga ccttgctgtt gggctctctgg aaagcctggc ttagagcggc aggaatgcc 300
ggggcgagtc tatggtggtt tatgtctcag cctaaataaa gcggcaggct gcacccctct 360

gaggggccta tgaaaaaaga ggagtctgaa aggaacaaga ttcctgctac agagaaccaa 420
gcgcttcttg ccaaggaggt ggggtcgcat ttgaggggct taagtcactt catactccga 480
cgataacctt cagtgccgac ccaggagcag gcatcagggtg tgtgccacac tgggcgaccc 540
acctcccacc accccagaga gctttccac aggaagccgg accctgcact ttgggcattt 600
ttcccggggt gcctgtttct tgcactaacc caagcttttt tcacatcaca tagggcagct 660
gggtctatcc cactaggccc acggccttct agcttttcct tttgtcaaag ctcttaatgg 720
tcatcactca ctcaaacttt tttaaaagac atgattttgt tcttcctcct ggggatattt 780
aaaaaccagt taagccactt gcacattttt ttccacttat gcaatttttg aatgctgggt 840
agacatgatt tttaaatgca gcaagtcaac caaagtatca acaatgcaag gagcaggagt 900
tttcctggta ggccacggaa gggcctagt ggcaggagaca gaaaagaggg gacaggtttg 960
ggtcacggtc ctgggggcag ctgaggatca ggttgcaa at gcccagatg tgcctgagag 1020
agcggcagca gccagcatgg aggggagcag tggcgttctc agcaccagtg tgttaagggtg 1080
gggctcaciaa tttcttgggg ctttccttgg gttacagcag cgagtttga gggggctttt 1140
ctcttccaa atctgaggtc agacaacagt gcttatgtga cctacccttg gagggcagag 1200
atgggccatt ctccatgggc cccagggtt ggaatggagt tccaaactgc agaagaccat 1260
gcccctagag gctccagaga ccgtgaactt tttcaatgac acgtttgaaa atctattaca 1320
aattaatct agtacctgat tttttgaaga tgaagctgac aggtattaaa tgaaaacgga 1380
agcactctta attaggaacc tttgccacat gatggcccat gtttatttgg agttgggggg 1440
agaacattcc ttatctgact tggtaaccag gaagccttag aaactcttgg ggaaggaatc 1500
ctcaggaatt aggtcaagga gctgcagatg gatcaaggga ggctttcctc tgggagaaaa 1560
atctcccaag gcatcggacc gagaccctga ctgggtgcga agagaccgca gaggtagggg 1620
caggcagcgg gcatcctgac cccaggccca tctgtccca cgttctgagt tccaccaaag 1680
acccaaaatg cagtgtttta gaattgtgta atattcctta agagaccaag agacatcctc 1740
cagtgtcttc aaactgggac tgttcccact tacctgagat aaggagattt gttccctgtc 1800
ttgacgtccc atcacctgta tgtcatagtc ggccccttcc aggaaggccc cgcgaggaga 1860
acctgtcctt aatcagagcc ttatgcgttc ccaaccctga ccccgccatc catcctccg 1920
tggggctgtg ttcccagatg tctttggatt ctgtttaaaa tgtccttggt aagacattcc 1980
aaggtttgaa ctccgctcct agctaaacct cctccttggt tacagggact gaaatagcca 2040
cattttgacc ttctgttcag tctgggatca tctgtggtag tgtgactaca ttcctttccc 2100

atgcaaggat cccatttaca tggcagttat ggaaggccca gaaaaccaga cttgctcccg 2160
ccctcctcct gcctatgttc cttctccctt cagattagcc ctcctaggca gccattccgc 2220
ctgctcaggg gctggggcgt tgggaagctg cgtggttcat taccaggaag agctggagcc 2280
accatatccc cctcatcagg gctgcagcta cccatggagg ctcagggtgc ccctgggctg 2340
gtgtacagaa cccaaagttg gtcccctggc ctgctcccag gccagacacc atcaacccca 2400
ggggcccatg tctcagtgcc acatgccata aatgaccac cactcctgtt ttgtgtgtcc 2460
tacagtctaa gtgtctgaat ggagggtttg cttttgggcc acctgcaagt gactgggggtt 2520
tgaggagaag gaaaaggtct caggaaaata atgcaggatg atccctgtca aagctaaagt 2580
ggcctggta gtgagaaccc ttgtgaggag ctcagaggag gaagccctta agatctccag 2640
aggcatgagt tctgaaagac agtgtggcct gtatatgctg aggggactag taacagaaga 2700
gaggaagtaa gaacaggcac ggcacgctct gctgaaagta gactgcggcc aggcttttga 2760
aggccttgaa ggatgtgtta gggatttgga agccactgga aagatgagca ggggtggaga 2820
gtgatttagg aatgttgttg tcatgctgcc caaagcaaag tagatgaaga ttcgaggtag 2880
aagcacactt ctgcacaggt ggccctaaga tggatgatgt ggagtggag gagcagatga 2940
gccaagagga caggaaatga ggtcgggtga aagggcaggg acaggccagg ggtgcacagg 3000
gatgagtctg gatttggttg ccttgagggc tgtctacagt aagcatactt aagcggatgt 3060
gctagaacta atgtcattat ttatttgcca caacctaaag agacaggcaa gtattagtcg 3120
cccgtcacag agaaggtcca ggtgtgtccag ggcccactgt ggaaagctct gcctggcctg 3180
cccctgctcc gccggccgtt acccgctacc cactcactat gtcgtccaaa aactgggcag 3240
tgaaaagtca caggtcagat acaaattgga cagatttggt gtgaacattt acaagctcat 3300
cccatacgt atgtttcagt ggtcacctaa atattctcat ttcaggactt tttaaaacac 3360
attttcccaa atctaacttg ggacaaaatc taacttggga catttaaata ggttatcaat 3420
aattatctgt ttatggcctc tttcggcaca caaataagca tctccctgta caaaattcta 3480
gtgtatgctg agctgattga ttgccttctg catacacctt ttctacaact tctcaaactg 3540
gtgtgacatg ctggtaagat ggcaggaaaa ggagtgactg aataatacaa tatagctgag 3600
atgtgtttca agaaaacctc tgggccaggg taggggtttg tgagcgggag ccaaggactt 3660
gccccatgtt tctaatacag gtgagaccac tgacacatgt ggtcagcaaa tatgttctat 3720
acacacatcc gcacactgtc atctaacca tccgttctcc catccacagc atctccagga 3780
caaagccatc gcaactaggg aggggttgac acctgctctc ctaacatgtt ttctttctgt 3840

ttcaggcttg aaaaaccctt gccagtttt gatcccttca agactttgtc acagcctcta 3900
tcacacatct gtttttctcg aagaaaaaaa tataattaat aaaaatgttt tactctttta 3960
cactg 3965

<210> 467

<211> 2573

<212> DNA

<213> Homo sapiens

<400> 467

gttaatccta gctgtgtgca gtctctctta cccttctgtg cccagctcag tcttccttag 60
ggctgggtgt attaggactg gctttgtccc acagcttggg gccatcggtc ctgtctcccc 120
tctgctggcc gggcacagct gtggtgaggt tgggcagctg aacagtgttg gctttcatga 180
ggaggcagaa agcagaggct ggcctcagac tcatacagaa ggtgggggtt ggctgggtac 240
gagggatgtg gagcacaaaa gcctctcatc ccccatatac cagggcacca agcccacagg 300
tgtccccagc cactgggac agaaagagtt cagtaagacc ggaagctcct ggtacgggtt 360
tctcccagtt ctctaggga ggcacctgc aggtcactga aacttcaagc accagggaag 420
atctaacatt tgagtccctt ccaggccatc agaggcctag tcagccacat gggaaacttc 480
caagacctga ctcaggcatc attccacat ggctaaggca ccagccgggg aagacttgaa 540
agaaaggggc aggagctcag atgaagagaa atcctaagtt acctttctag gtcaaggcct 600
gtccctggcc atctctgaac ttcagctaga gcttcaagtc tgtgcctgga gctcctggga 660
aggctactca ccttgaacac cagcttgac aggacagcat ggtgcatgcc gctgcatccg 720
tgagcagtgt gtctcctgca tgcagaaagg gagcagagaa ggccaggggc ttttgctaaa 780
aatagtggcc agaccagagc tctggagcca cctgtccac ctcaaagg tctgggggtc 840
aggaggcagg gttttatctc tgtctaccat ctccctcgaa cccacactgc aacaggaact 900
gtgagagtct ttgtaagtaa actgccctgt ctaggtcagt acccacctga gctttggacg 960
cacacagctt ttagtaccca cctgagcttt ggacacacac agcttctagt gatttctggg 1020
gccccaccgt aaagttagca tgctttctga actcgcttct ctgtgactga tgtaggctg 1080

ggcccagagg cacagccggg gcctgcctag cactcacatg ctggacaggt ctgggagagg 1140
 cagagtgcc cactgccac taggctgggt gccacagcc cgcatgcagc agcttgctgc 1200
 accccaagtc caggtcgggc tcagctctgg ctcacagact ggagacaatg cagatgccag 1260
 agcaaagggc caggaagggt caaacatctt tattctcttt ttttttttct tttttaataa 1320
 agttaaacag taaaacaaaa attcacaagc tgccctccctg tccacccccg cctccctccc 1380
 ctgccctcgg tcttcggcat tggttccctt tgctccaccc cactcacaga gacacagggc 1440
 atccaactga gaaaacgaaa ctgctctaag cacacggaga cgtgatgaag ggaggaggtg 1500
 aactgtttcc acattcaaga ttaactgag tgaatctgca ttttctgggt tctgggtggt 1560
 tgcccttcat tagccaaatt gaaaaaagaa attccctgga ccagatgctg aaagagaaaa 1620
 gaggggttgg tagttggcta tggattttct aaggaagatc actttgctct gattatggaa 1680
 aagtcttcaa gggctgcttc aaactcaaac acagagagaa actctatggg tatcaaacag 1740
 ctcaggctgt ttttgggtgc aagaggggagc acgtgactgt attatacatg ggtagcttct 1800
 gacctcagca ttatctatat agtacctttg ctcttgacga gaagccttgg tactaggcag 1860
 ttagagatgc ctccctgacc ctgcagagat gcggtggcta aaggtcccaa ggcaaggggt 1920
 gcctgggaac cttcctgtct tcatecttag caacagccga gtggatagat gccctgctag 1980
 atgagaattc agctgcccc gctcatgggc ccctctgact cccaaagagc tgcctaagag 2040
 gcaatgagtg tggtggcttg tgatctggga actcccaaga acagcaggcc cacctacctt 2100
 caaagctgaa gccgccagga ccgccaaaga atgccttgaa gatattgttt ggatcaaaat 2160
 ctgtagagca gggcaagtaa catggaaggg aagaaaaggt gaaaaattag aaatgttcga 2220
 agagaactga tgacactgag aacagatctc caaagcttct ctggagagtc tactccct 2280
 ctttcccaa cacttcagac tgcaagtgag caaacctgcc ccatccctg caaacatgc 2340
 tactgatcc cactcctagg acatgttccc ttctccttc aactgctgcc ccaaaggaag 2400
 ctttctctgc ttcagcttgc ttcatgggc tgttttctca acaaattgaa tgccatttgc 2460
 acttacaaa gactttcccc atactctgtc tccctataat gctggagcgg ctactaaaaa 2520
 ggataaaatg tatcacttaa atgttaccaa aaataaatat aagagcaaga tct 2573

<210> 468

<211> 2194

<212> DNA

<213> Homo sapiens

<400> 468

```
tttaccaata atcaaataaa agcaaattag agccacaata gtatTTTTgc ccattttctt    60
agcaaagact taaaagtttg ataatgtcct tgtttggcag gaatgtaggt agaatgatca   120
gctggcactt tttctggagg atatTTTggc aatattaaac cattttaaat acgaatcatc   180
tctgaccac caattttaca ctaaaaacat tattacaagg aaattagaga aatttataaa   240
gatggatatt ctaggatgta cactatagca ttaacagcag aggactaaaa acagcctaaa   300
tgttcattat tatgggattg tttaaacaaa ttatgataaa gtcaatgcag tattgtctgt   360
taaggatgaa gaatatagga aaacacctcc atagtatatt aagtgagaaa ataaacatac   420
aaaacactag gctgggcgcg gttgcagacg cctgtaatcc cagcactttg ggaggctgag   480
gcgggcagat cacctgaggt caggagttcg agaccagcct gaccaacatg gagaaacctt   540
gtctctacta aaaataaaat tagccaggcg tgggtggcgcg tgcctgtaat ctcagcctcc   600
tgagtagctg ggactacagg cgtgtgccac cacacctggc taaatTTTgt atTTTtagta   660
gagacagggt ttcaccatat tggccaggct ggtctcaaac tcttgacctc gtgatccgcc   720
cacctcggcc tcccagagtg ctgggattac aggcgtgggc caccgcacct ggcctagaag   780
gggaatacct tttacttgg tgtaagaatt gtcaggctgc cccttgaaag tgtgtgaaca   840
tcacagacca tgTTTTagag cctagattcc tgacttaaat ggagagttgg actctaaagt   900
tcatgatgta taaaattatg tgatgtatga aattgcagcc cccaatgtag ctttcatgac   960
tctgcgtagc atgtgtaata ccagcaaaat ggtgacttgt gccaaaattt ttttttactt  1020
tttggctctt tttcccttt ctcagaacgt cccacaatc ggtgtcattg ccgttgtctt  1080
agccacacat ctgtgcgatg aagtcagttt ggcgggTTTT ggatatgacc tcaatcaacc  1140
cagaacacct ttgcactact tcgacagtca atgcatggct gctatgaact ttcagaccat  1200
gcataatgtg acaacggaaa ccaagttcct cttaaagctg gtcaaagagg gagtggtgaa  1260
agatctcagt ggaggcattg atcgtgaatt ttgaacacag aaaacctcag ttgaaaatgc  1320
aactctaact ctgagagctg tttttgacag ccttcttgat gtatttctcc atcctgcaga  1380
tactttgaag tgcagctcat gtttttaact tttaatTTaa aaacacaaaa aaaatttttag  1440
ctcttcccac ttttttttct ctatttatTT gaggtcagtg tttgtttttg cacaccattt  1500
```

tgtaaatagaa acttaagaat tgaattggaa agacttctca aagagaattg tatgtaacga 1560
 tgttgtattg atttttaaga aagtaattta atttgtaaaa cttctgctcg tttacactgc 1620
 acattgaata caggtaacta attggaagga gaggggaggt cactcttttg atgggtggccc 1680
 tgaacctcat tctggttccc tgctgcgctg cttgggtgtga cccacggagg atccactccc 1740
 aggatgacgt gctccgtagc tctgctgctg atactgggtc tgcgatgcag cggcgtgagg 1800
 cctgggctgg ttggagaagg tcacaaccct tctctgttgg tctgccttct gctgaaagac 1860
 tcgagaacca accagggaag ctgtcctgga ggtccctggt cggagaggga catagaatct 1920
 gtgacctctg acaactgtga agccaccctg ggctacagaa accacagtct tcccagcaat 1980
 tattacaatt cttgaattcc ttggggattt tttactgccc tttcaaagca cttagtgtt 2040
 agatctaacg tgttccagtg tctgtctgag gtgacttaaa aaatcagaac aaaacttcta 2100
 ttatccagag tcatgggaga gtacaccctt tccaggaata atgttttggg aaacactgaa 2160
 atgaaatctt cccagtatta taaattgtgt attt 2194

<210> 469

<211> 2373

<212> DNA

<213> Homo sapiens

<400> 469

agcaagcctg caaagggaac ggggacgggc gtgaaccatt tcctccacca gcagggtcct 60
 ccgatgccgc agcatccacc ccacacctta aacctcatgg tattagtggg caatttaaaa 120
 gataaagaca cagggaagcg ggactaattg ggaaaacctg cagacatttg ttttaatgcg 180
 taatctgcta aataactacg ggggtggggg tggggaagga agagatccaa ggaggcagaa 240
 ggctgcggtc aaaatatattt ggggtggcaa agtcacgtag gatgtggctg tgggttcttg 300
 cagcccagag attcagctcc cgcctcctcc ctcagagcga gtccatagct accctcacgt 360
 cccccgtggc ggtcctcgcc acgctccgga gcgggttacc catgagggtg ctagacctgg 420
 gcagcgggaa cctcgaagag gtggagattg caggctggga ctccagattt cgggcaggga 480
 tgcggggaag ggaagacgcc tcgctggagg cggaatggag ggcaaggcga aggaggatgg 540

tgcaggaaac ggcgacaagg cgcccggcca ggcccgcgag ctaccgagac ccgggttcca 600
atcctcccc cttccgcaaa cgcccgggtt cgagggtacct ggcggggcaag ggccgcagcg 660
gagcgaagcg ggctggccat ggggaggctg cggggacgcg gggctgcaga gagcggcagt 720
ggcacggagc gcgcggctgg aagcgaagc aggcggtgtg gccaagcccc ggcgcacggc 780
ccatagggcg ctgggtacca cgacctgggg ccgcgcgcca ggtccaggcg cagggtacga 840
cgcaaccct ccagcatccc ttggggagga gcctccaacc gtctcgtccc agtctgtctg 900
cagtcgctaa aaccgaagcg gttgtccctg tcaccggggt cgcttgcgga ggcccagaaa 960
tgcgcgccac gaacgagcgc cttccaagc gcagatattt cgcgagcatc cttgtttatt 1020
aaacaacctc taggtgaatg gccgggaagc gcccctcggc caaggctaag gaaacctcgg 1080
agaaactaca ttagggcagc tttccaccg actccaaatc caactgaaa aaagctgttt 1140
ctgccctcga gagtttgagg gcggggattg acatttgtgc gtctgctctt gtctgccact 1200
gaccgctatg tgcaaaactga agggggagaa cgtgaatcca gcttttagat ttccctgcgc 1260
cacctacca aaccgaattt gtaactcggg gtgttatggg gctaccaggc tcgcattccc 1320
taagggccat ttctgcccc aaatctcaat gcctttcatc gttttcaggc aaagcagacc 1380
atcaagagct ccaatcatalc tgttttcata gttttccgat gtaggctcgt gatcgcaata 1440
tttagaaaaga ggactggaaa agtgatgtta gaagtactat tcggtttaga aagggaagg 1500
aggattggaa tagctattgt cttatatgca gtgttcgcct ggggcaacgt cagcctaaat 1560
tatgagcctt cctggttttt aaattaatag gaagtggtaa ctggggctga cttgatcttg 1620
gaaagagggg gagggcagtt tattctgggt gaaagcggtt aaatccggtt tggtttttta 1680
aatggtttca tacaacgcta ctgataatat actgtagctc taatcttatc aactcagaaa 1740
acctacactt ttctctcct ttatacaagg cacagaaagg cctcttacgc tggggtgggg 1800
tccaagctc caaagaccac agagtccagg caggtcacgt accaccatag agcggcgagt 1860
gtccctggaa gtccagggtc gcttataaga taagttttgt ccttggtgtt ttgagacgga 1920
gtctcgtct gtgcgccagg ctggagtgc gtggcgcat ctcactaat tgcaacatcc 1980
gcctccccgg ttcaagcaat tctccatct cagcctccc agtagccggg actacaggcc 2040
tgcgccacca cgccgggcta atttttgtat tttttgtaga gaccgggttt tgctatgttg 2100
cccaggctgg tctcaaactc ctggactcaa gccaccacc tatctcagcc tccaaagtg 2160
ctaggattac aggcgtgagc cacggcgccc ggccctccatc tgtattaact gcttctatct 2220
cctccccatt aagggttct gtccaattat tccacctaaa taaggctctc aatagccttc 2280

at tt t t g t t c c t g c c a a t g g t t t t g c t t c t c g t g c a t t t t c a t g g c t g c a c c t a t g t g c t g 2340
a t g a c t c c c a a a t a t a t t t t t t c a g t c c a t c t g 2373

<210> 470

<211> 2357

<212> DNA

<213> Homo sapiens

<400> 470

g a g g t a g a g g g g g g a t a c t t t t a t t c t t t c t t t c c c t a g t t g t t t t t t t t g t t t t a t t t 60
t g t t t t g c c c a a c t c e t t a c c t a g t t t t c t t a g t t t t t g c t a c c g t a t g t g a a a a a a t 120
t g a c a a a g t a t a t t a g a t t g t c t t g c t a t g t t g g a a t t t c t g a a c t g c c t t t t c a g t a c 180
a g t t t g c c c t g g a c a t a c g t a a c c t a a c a g c a g a t g t a c c a c a a t c t c t a g a a t c a t g c t 240
t g t t t g c c t c c c a g c t c t t c t a c a t t g a g a g c a g a t g a t a g c c a g t c t a c t t a t g c c c c 300
t g a g c t t c t g t t t t c t a t t a a a a a a a a a t g a c a c t a t c g c a t c a a c t t t t t t t g g g 360
t c a a a t c c g t g a g a a c a c g t a t a t g a a g a a t a a g c a c t t g t t a a a a t g a g t t a a t t t g a 420
a g a a t a t t a g t g t t t c c t a a a t a t g a c a g t g g a g g g a t a t g g t a g a a a g g a a a c t g t t g a 480
g a a c a g a a a g g a c a a g g g a a a t t a t a g c a g c t a c t t t t g t g g a t g g a c t g t a c c t a t t a c 540
c a t a t t t a a c a a t t a c a t g t g g c c t a g t a c c a t a g t t t a t t a t t g t g g a t t t t t a a a a 600
g a a t a g a t a g a c g t t g a a t t a t t g a t a t t c t c c t c t c t c t c t c t a g g a t a c t t a c a g a g 660
a g c t a c a a t g g a a a g t c c t g g a t g c t g t g g a a c t t t g t t g a a a g a t g g c t a a t a g c c t t 720
g g c t t c a t g g t c t t g g g c t c t c t g c c g t a t t t c t c t t t a c c t t t a a t a g t g a c t t t t c a 780
t c t g t a t g g a g g c a t t a t c t t a c t t t t g t t a a t a t t c a t a t c a a t a g c a g g t a t t c t g t a 840
t a a a t t c c a g g a t g t a t t g c t t t a t t t t c c a g a a c a g c c a t c c t c t t c a c g t c t t t a t g t 900
t c c c a t g c c c a c t g g c a t t c c a c a t g a a a a c a t t t t c a t c a g a a c c a a a g a t g g a a t a c g 960
t c t g a a t c t t a t t t t g a t a c g a t a c a c t g g a g a c a a t t c a c c c t a t t c c c a a c t a t a a t 1020
t t a t t t t c a t g g g a a t g c a g g c a a c a t a g g t c a c a g g t t g c c a a a t g c a t t a c t t a t g t t 1080
g g t t a a c c t c a a g t t a a c c t t t t g c t g g t t g a t t a t c g a g g a t a t g g a a a a g t g a a g g 1140

agaagcaagt gaagaaggac tctacttaga ttctgaagct gtgttagact acgtgatgac 1200
tagacctgac cttgataaaa caaaaatttt tctttttggc cgttccttgg gtggagcagt 1260
ggctattcat ttggcttctg aaaattcaca taggatttca gccattatgg tggagaacac 1320
atttttaagc ataccacata tggccagcac tttattttca ttctttccga tgcgttacct 1380
tcctttatgg tgctacaaaa ataaattttt gtcctacaga aaaatctctc agtgtagaat 1440
gccttcactt ttcattctctg gactctcaga tcaattaatt ccaccagtaa tgatgaaaca 1500
actttatgaa ctctcccat ctcgactaa gagattagcc atttttccag atgggactca 1560
caatgacaca tggcagtgcc aaggctattt cactgcactt gaacagttca tcaaagaagt 1620
cgtaaagagc cattctcctg aagaaatggc aaaaacttca tctaatagtaa caattatata 1680
atgtttccct ttttgattat tgcattgtat ttttaattgt gcagaatgat aaagaatgtt 1740
ccttttagaa gtgtgttatg tctgtacctg tctgaagagt gacattaaac tttgaaagga 1800
cttcaactgct cctttacgat attccaaata gttttttaca ttggaaaaac taattcttgg 1860
gattctttca tacattttca tcaaaacttt cagtgtgatt atgtattcat atcttcagtt 1920
taatatgtca gtataataga tattgttcaa aagtttcttg ttgctaaagt ggtgtaatct 1980
gttacacaga tgaatagcta gatgtggaaa gagatatgta aacaagaaac ctttgggtat 2040
tgtttcttaa gtaaattattg ggacaatcat ggtaagcaaa cttagtcttg taactgcatt 2100
tttcacctta aaagttaa at gaaatgcatg atggtathtt attccttgaa ttatgcaatg 2160
caacatttta catgtaaata gcaactggtca tatactgatg tatatggtta tctgggttat 2220
atctattttt atgtaaactc tattttgttt ttggcaagaa gtgaaattga gacttatgtg 2280
caggttgcca ttgaattttg ctctggtgaa tgctgagatc cagctttttc ttacaaataa 2340
atgggaccct gttttcc 2357

<210> 471

<211> 2222

<212> DNA

<213> Homo sapiens

<400> 471

ttcgccgcg cgcgggcggg gccctggcag caacgaaaat ggcgagcctc gtagccttcc 60
gggccccggcg gccgcattcc gggagtcgcc aggtgggagc ccgccttccg tgtcccaaaa 120
cgcccagagc ccgggacacg ggccggcggc cgggtcacca agccagtcc cggaatcggc 180
tcgcgccgga atccagactc ggcttgcaaa gcccgtcct gccgtctctc cgcagcgcgc 240
cctgcccccc actgccggcc ctcttagctt caaaacaaaa ttttgccttt catcctgaga 300
gattaatacc ccgcaggtaa aaccgtggag acggagctgc ggtgggtttc tttccacgc 360
ctcagtttcc tcgtctgtga aatgggacca ggcgcgccctg tgcttctccg ggagtttatt 420
gcagggctgg ctggagagaa tggctgggtg gaagctgcca ggaggaggcc caaggccgcc 480
caccctgtgg gcctcgtttg ctgagcgggg gtcagaggcg tgcgggacag ggcgcgcccc 540
acggcggctc tggaggcggc ccggcccgtc cctgtctcct cccctcgtc cccctcccc 600
ggccttcccg gaactctcct cgcccgttg gtggaggagg ggcgagggcc gactccgccg 660
cccctggggt ctccctctc ccacccccac cgcagagtct ggcccgcctt gggctttcct 720
ctcaggtccc tttgggtctc cagaagcccc gaggtttcgc gcagactcga acctgagatg 780
acaccacca gcaccccaaa tcctgcagag tgtggagggg atctggggag aaggcagggg 840
ctgcccgggc gctctggctg ctgggggtgg gggacagggc ctgccgggga agcgggtcgg 900
gggaggactg gagaccagg ctcccctagg tacaacgaac ctgcggggag ggaatacgcc 960
atccccgtac ccacttccga ggacgtagg cttttggcac cggcggcagc cgcgttccca 1020
cacatctggg cggggccccg cagcatggcc tggggagctg aggcttcggg atccggcaca 1080
aactaccatt ctaggtgtag acggaggagg tggggtgtgg gaagcagggg gccatggtct 1140
gagcagacct tctcacctc gggcctccca cctcctgggg caggacttac ggggaaggac 1200
ccgaggggag tggggtgtcc ataggacac ccaagggtct atccctgcga gctttgcttt 1260
ctactaaacc aataatcgca gtggtggtgg cagtcgagac acggctcaaa gagccggcaa 1320
gaatagagca gagaccagga tcgccccagg cagggaaaaa atgaccagtt ctgtagagtg 1380
acccgaaggt gatggaatca ctcgggcgct ctcctgggaa agagctgcct gctccccgc 1440
cgccgccagt acaccggcg ccattgcccc ggggctggag agagcagcca ggcacagccc 1500
ctccagcttc ctgggagtcc aatttcccaa ggtagaacgg tggcggcaga gcctggccct 1560
gtggtggggc agctgcaccc cgatgagtgg cttgcagttc ctggagccct gcaggttggt 1620
ggagaggcag ggagcccttc tccctctgc ctgccctctt gcacttctc tcccagaacc 1680
cagcactact cccagaggct ctgagctgga gccctagaag gaggcgctgc aaggctccgt 1740

gctcctggag cttcgagtct atggtatgag ttaaacagaa gggatatctcc tccatcagat 1800
 ctacaggagg gtgtctgctc catcagacct ggagcttcca aggcatTTTA CCCgaagctc 1860
 cagcacctgg cccaaggctg ggctgtgctg tgtcctcagt gaaagaatgg atgagtcaca 1920
 gctgaatgac tgaagagctg aaccaatggg aaaactgatg ctcagaggct tgagcaacct 1980
 aggccaggac ctgtccttag aggcagaagc aggactcaga ggaagagcac cctgaccaca 2040
 aagccccagg gtccagaaag actcagccac tggagtctgt gtttcctgag tcgcctctca 2100
 ctgctggagc tgtttatcat cgctccaact ttcactaaaa aggaaaaact atcacttaaa 2160
 caaagccatt gaaaccccag catcatgtgt ggatttttta acataaataa atcatacaaa 2220
 ct 2222

<210> 472

<211> 3307

<212> DNA

<213> Homo sapiens

<400> 472

ttttaaaatg ctggtaatgg tctttttttt cttttttttt tttcttggtg attttaatgc 60
 tttggaaaag atctcatggt tttatctcca aaggaggaaa ttaatttgat gccatggaaa 120
 ttagttttct agtcgtatgc cttgaatgag tgaagaattt ctttttcatg gtggtactaa 180
 atttggggaa agctatagaa actttcatct ggaagcttac acttttctc ttttttgaaa 240
 atttgggtgag agacttgat attttattat tttctgtaaa agagtgtaat ttgttgtaca 300
 ggtctaatat tgatcctttt ttggaagtat ggaaagaatc tgagtataaa gcagaattac 360
 ctctggatgg catgtattct caaggacact gtcacagtga aacagtttat ttagaagctt 420
 gtgtttccaa agtggtgaat ttgatattca caaaattggc atgtgtaaac tttattaaac 480
 ttttaagctat ttcctaagat gaagatgaca aacttggagg gaaacttcat tcatttggtt 540
 tatttttatt tttattttta tttattttta tctttttggg acagaatctc gctctgtccc 600
 ccaggttga gtgcggtggt gcggtctcgg ctactgaga cctctgcctc ctgggttcaa 660
 gcgattctcc tgcttcaccc tccgggtggc tgggattaca ggtgtgcacc accacacca 720

gctgggttttt gtgttttttag tagagacggt ttcgccacat tggccagggt ggtgtcgaac 780
tcctggcctc aaagtgatcc gccaccttg gcctcccaaa gtggagcccc cgtgcccctt 840
gtttgtgacc tgtcaatata aatatgctca gtaatggggg gaggggtggg ggggtgaaaaa 900
ggaaatatgt ttaatattaa gactttggcc ttttagtgta aactgatatt caaaaatttc 960
ttcatagaac atttgcttct ttgcttgatc atttttctaa ttctgtacat ctaaaatgcc 1020
cagaatttga gttgctgtta tagtctacta acatagaact ttggagtaat aagatgggaa 1080
tttgtctctc ttttgccaag acaagcattc gtaatctaac acagtattgt tgccacgagt 1140
acgagtatgt gatagactgt tgagaataaa gaaagcaggc acagttggtc agtcctaaga 1200
taaaggagat gtttttctta tatgtttgtg cattaagaa aaaaaaatc ttgaatctga 1260
ccaatgatgt ttttttctt tgtaagaaaa ttaacaaat gtttggcaag cttctggaat 1320
ctaaatttga aattatacat ttgtcatttt ctttaaatat ttcttcacct cagctttgat 1380
tatgagaaat cactgtcctc tgctgttctt ttttttttt ttttcttttg aggcgagtc 1440
tcactctgtg ccaggctgga gtgcagtgg gcaatcttg ctcactgcaa cctccatttc 1500
ctgggttcaa atgattctcc tgccgcagcc tcccagtggt ctgggactgc aggtgcgtgc 1560
caccacaccc agctagtttt tgtatttttg gtagagacag ggtttcacca cgttgtccat 1620
ggccaggatg gtcttgatct tgacctgtg atccgcccgc ctcggcctcc caaggtgctg 1680
ggattgcagg cgtgagccac cgtgcccggc ctgtcctctg tggttttctg ggcttatgtt 1740
aaaattataa ctcaatcacc agtctttata aatttgcttt tttatattta aaccaaacct 1800
aatgctaatt gtgatatgtt atttattctc acctgatttg aatcattgga ttcaattaaa 1860
tgagtttaat tatcattaaa taattctaag agaaataatg tctattcgga tgggtgggaat 1920
tttctttcta catgcagccc cattctgaat gaatgaaatc aaatcacgtg aagatcaggg 1980
tcctagagta acttaatat ttgtacattg gttatttgac tcctcatttt tatattacat 2040
gttatatcaa gggagggggc ataaaagaaa tacaaaaatt gcagaggtat ctggaatgta 2100
cctatttggt aattctattt gtcatttctt ttgtttcatc ttttgagtaa taagctgctt 2160
ggaaaagtgt ctgttcttta gctgattttt tagctataaa aatgtatttg aaaagctcat 2220
aaatttcagg attgaaaaga taattgaaag ttttaaaaaa acctaattca ttgaagtaat 2280
aaccaaataa ttttcaatct tgattcaact gtgattcaaa tcttacacca tttgccact 2340
tctatgaatt ttatgtataa aattttttta gagtcagagt ttttttctt gattaattgg 2400
atgtatttca cagaatttcc aactgctcac gttagttttc ttccttttag agttgatctc 2460

tctaattgtat tagatcttca tgcctttgat agtctctctg gaataagttt gcagaaaaaa 2520
 cttcagcatg tgccaggaac acaacctcac cttgatcaga gtattgttac aatcacattt 2580
 gaagtaccag gaaatgcaaa ggaagaacat cttaatatgt ttattcagaa tctcctgtgg 2640
 gaaaagaatg tgagaaacaa ggacaatcac tgcattggagg tcataaggct gaagggattg 2700
 gtgtcaatca aagacaaatc acaacaagtg attgtccagg gtgtccatga gctctatgat 2760
 ctggaggaga ctccagttag ctggaaggat gacactgaga gaacaaatcg attggctctc 2820
 cttggcagaa atttagataa ggatatacctt aaacagctgt ttatagctac tgtgacagaa 2880
 acagaaaagc agtggacaac acattttcaa gaagatcaag tttgtacata acactagagg 2940
 catttcttat caaaaggatt ggataataaa aataagtttc tactgggtat atttcaagca 3000
 tttatttatt actttagtta cgaattccaa tatactttta aatgggtattt gttttacagc 3060
 atacataaaa ttagcaaat cggtactgta aaacatttta cattcataca gttatatata 3120
 atatcctttt ttttaaagaa tggatattca caaaaatgtc ttttgaaatt ggctttggag 3180
 tttacatata ctgaacatga aagttttata taatgatgat acaactttca acattgtcat 3240
 tttttcttag aacttcagct gattgcagag atataatgat tacattgtta ttaaattttt 3300
 ttaacac 3307

<210> 473

<211> 4820

<212> DNA

<213> Homo sapiens

<400> 473

atagatatca agccatccag aaaatcttcc ttaggaattt taggctgggt aatactgaaa 60
 gcaaactttc aaggaagggt taaaatggcc aatttgaact ttctagtga aaaatttgggt 120
 gtctgagcca aattaaaatg ccaatcatta tattctaacc aaacttacag acttttagtta 180
 ctagcaaata ccagatatga ttcttactgt ataaaagtta taattttaga ataaaatgga 240
 ggaataacca ccaacgtatt gtagatagggt tgtgtctgtc tccgaaactg caatgctctc 300
 atacgctaga acagagccta cctacacttt ctgctcaatt aataagcatc atataaatga 360

atgaatacat tttaaaagaa aaacaacaag gagaaagaac aggaagaaag aacagggaaa 420
gaaaacagaa ggtggggaag aggaaggaag agagggagga aggggcaggg tacttgagag 480
accatgagga tcccagatca gtccacaca tgattacact gaattatgaa ctaagatatt 540
taccgaaacg ttttccatta atgcatattt gacttgcttt ttctgaccta atgaatttgc 600
aaaacgatga caatcatgta gcaaatgtac atggactagt actcacaatt aatTTTTtTat 660
tttctatgcc agcaggagac aaagatgata gaagaatgaa attcattttt gaccagaaa 720
tcttatttta gctactgctt tatctgctct taattttcta ggagtggact ttggggccgt 780
cgtgccgat cctccctgaa tgtggagcga tggggggttg cacacaggcc gttctgcccc 840
agcagctaac aagaaagacc ctgcatctc tccctgcac tctccctttt gggtcctact 900
aatgtctgtt gaatttctct tttttccaaa gcaaaatcct tctctgcatt ttgtctgctt 960
gtctgtttcc cagagccgca ggactctctc ctgtctgga gttccagaga gccccactt 1020
tctctttcta agctgtgttg tgtgtttcct ggtacattct aggttcccca aggataaaca 1080
tgactaagga ttggaaagga ggaaaggccg cgcagattgt taatctgaaa gtcaatcccc 1140
ggatttagct ctcaaaaatg ctttattttt ggagaaaagc aatagagtaa gacagaagga 1200
cttaacgctt gcagggaagt ggctttctgc catgtagagc caggctggca acctgccctc 1260
tgccatcagg gagttagcat gaacctggaa acctctagga cgcaagagcg aggctggctg 1320
tcccctcgtg tgcagtgtt agaccttctt gccacacgc cgtccctca ctcactgga 1380
tagccccga atcaactgtt cacacgaaag cagctgcctg gttctgagt gcatgctca 1440
ctccaagca caggctgaat gaaaagaaaa ctgtgcaagt agcttgtagt gtgggaagcc 1500
cccagcagag gctgagggtg cagccagggt ctctggaagc cttgaggcct ctggtgtcat 1560
cttcctcacc tctaaataag agatgggctg ggttggtcaa ggtcctccct gtctaaaac 1620
actttaatga aatggaagaa aggctgcagg ctgatagagg agggacagtc tggtttggtt 1680
ccctcaagtc ttcaggagag ggctcaagga cagtctcca tttcttggtt gcaaaatgta 1740
aagtgcagtc tggaccctgt ccattgagta gagactcagg aggccaacca agatccctga 1800
aaagctaaca gcgtgggtcag ctttcccaca gacagtgcac ccaccgtggg aggacacttc 1860
gccccccatt gttaacgtcc accgcgcca gactcccaca gcgagctcct tcccttctc 1920
cccatgtttg cagtggagtt tccactcgag aagacagcac agtagcaagt agaggctggt 1980
cctgggacac tcgcacccat gtgtgtcagg aagcccctgc ggtcacacgg ccatgagga 2040
agccagaggg gctgctgggg ctgatgaggc cagggcaggg cggcctgctc ttccataaat 2100

gacagctggc accaaagccc agagctggca gcctccacct gaggagtggc atctccatga 2160
acggcttgtg ttctcgcaca gcccattgc gtagatgagg aaactgaagc tcagagaggt 2220
tcctgccctt gcccaggcc acacagccgg atgagctaga aaggtgctag gggactggga 2280
ggtgggggag ctgagacgct gtcccgtgc tgccaggatg cggccgcccc ccgtgccagc 2340
caggcctgcc tcctccctct gtccggctca gcagccccgg ctcctgttg ctcccagtc 2400
gagctatggc caagggagac tgattcctgc tcaccctggg agagagctca ggattttgtc 2460
tcaaaacctt ataaaagata cgaggctcga cattttacta aggccgagga ctcttgatct 2520
cccagacaga tcctagaacc acagggcaca tgtgaccaga atccaatctg tgcaaataca 2580
tcagcaaaag gagccccag caaaggcgca ggccggggcc tccggggacc ggcacctaca 2640
cagcgcacag cccccaggg tccgagtcct ccaaaccgt gtaggcagga gcctccttac 2700
cttgatttgc ttgatgtttg ctaatcttct cttgaacacc ccacagcgtg aaggtaaagca 2760
actgttccct aaacgactta gatccttaaa atatgtgtgg ttgggccgca tatctcatga 2820
gagagcctcc gccc aaacca gagccctcct ctctctgcgg ccaacaccct ggtagacctg 2880
gggggagcagc ctctcccgcc cccacccct cagcgtgggt ctggcccgtg gtcctgaac 2940
cactcaccag tccagtccgg ggcctgggcc cttccccggg gccctgggtg cagctcccag 3000
tggtcaagc agcgtgccc gcaccgcggg tggaggttga gtcctgtgtg cttctcttgc 3060
agggggccga aggccagaga ccaggatttg gctacggagg cagagcgtcc gactataaat 3120
cggctcaciaa gggattcaag ggagtcgatg ccaggggcac gctttcaaa atttttaagc 3180
tgggaggaag agatagtcgc tctggatcac ccatggctag acgtgaaaa cccacctggt 3240
tccggaatcc tgtcctcagc ttcttaatat aactgcctta aaactttaat cccacttgcc 3300
cctgttacct aattagagca gatgaccct cccctaatgc ctgcggagt gtgcacgtag 3360
tagggtcagg ccacggcagc ctaccggcaa tttccggcca acagttaa at gagaacatga 3420
aaacagaaaa cggttaaaac tgtccctttc tgtgtgaaga tcacgttct tccccgcaa 3480
tgtgccccca gacgcacgtg ggtcttcagg gggccagggt cacagacgtc cctccacgtt 3540
caccctcca cccttgact ttcttttcgc cgtggctgcg gcacccttg ctttttgctg 3600
gtcactgcca tggaggcaca cagctgcaga gacagagagg acgtgggcgg cagagaggac 3660
tgttgacatc caagcttct ttgtttttt ttctgtcct tctctacct cctaaagtag 3720
acttcatttt tcctaacagg attagacagt caaggagtgg ctactacat gtgggagctt 3780
ttggtatgtg acatgcgggc tgggcagctg ttagagtcca acgtggggca gcacagagag 3840

ggggccacct ccccaggccg tggctgcccc cacaccccaa ttagctgaat tcgcgtgtgg 3900
cagagggagg aaaaggaggc aaacgtgggc tgggcaatgg cctcacatag gaaacagggt 3960
cttcctggag atttggtgat ggagatgtca agcagggtggc ctctggacgt caccgttgcc 4020
ctgcatggtg gccccagagc agcctctatg aacaacctcg tttccaaacc acagcccaca 4080
gccggagagt ccaggaagac ttgcgcactc agagcagaag ggtaggagtc ctctagacag 4140
cctcgcagcc gcgccagacg cccatagaca ctggctgtga ccgggcgtgc tggcagcggc 4200
agtgcacagt ggccagcact aaccctccct gagaagataa ccggctcatt cacttcctcc 4260
cagaagacgc gtggtagcga gtaggcacag gcgtgcacct gctcccgaat tactcaccga 4320
gacacacggg ctgagcagac ggccccgtgg atggagacaa agagctcttc tgaccatatt 4380
cttcttaaca cccgctggca tctcctttcg cgctccctc cctaacctac tgaccacact 4440
tttgatttta gcgcacctgt gattgatagg ccttccaaag agtcccacgc tggcatcacc 4500
ctccccgagg acggagatga ggagtagtca gcgtgatgcc aaaacgcgtc ttcctaattc 4560
aattctaatt ctgaatgttt cgtgtgggct taataccatg tctattaata tatagcctcg 4620
atgatgagag agttacaaag aacaaaactc cagacacaaa cctccaaatt tttcagcaga 4680
agcactctgc gtcgctgagc tgaggtcggc tctgcgatcc atacgtggcc gcaccacac 4740
agcacgtgct gtgacgatgg ctgaacggaa agtgtacact gttcctgaat attgaaataa 4800
aacaataaac ttttaatggt 4820

<210> 474

<211> 5487

<212> DNA

<213> Homo sapiens

<400> 474

atttcaaaat tttgggcaat tttgtccaca tgattttcct actgtatttg ggaaaatttc 60
ttcctcgacc aaaatatgga aaccactggc tcaaacgagg tccattatgc aacccaaaac 120
agtatttcca ccactcactc agataaaatt acagagatat cctgaatcag cagaggaaaa 180
ggtgaagggt gaaccattgg attcactcag cttatttcat cttaaacgg aatccaacgg 240

gaaggcattc actgataaag cttataattc tcaggtacag ttaacggtga atgccaatca 300
gaaagcccat cctttgaccc agccctcctc tccacctaac cagtgtgcta acgtgatggc 360
aggcgatgac caaatacggc ttcagcaggt tgttaaggag caactcatgc atcagagact 420
gccaacattg cctgggtatct ctcatgaaac acccttaccg gagtcagcac taactctcag 480
gaatgtaaat gtagtgtgtt caggtggaat tacagtgggt tctaccaaaa gtgaagagga 540
agtctgttca tccagttttg gaacatcaga attttccaca gtggacagtg cacagaaaaa 600
ttttaatgat tatgccatga acttctttac taaccctaca aaaaacctag tgtctataac 660
taaagattct gaactgcccc cctgcagctg tcttgatcga gttatacaaa aagacaaagg 720
cccatattat acacaccttg gggcaggacc aagtgttgct gctgtcaggg aaatcatgga 780
gaataggtat ggtcaaaaag gaaacgcaat aaggatagaa atagtagtgt acaccggtaa 840
agaagggaaa agctctcatg ggtgtccaat tgctaagtgg gttttaagaa gaagcagtga 900
tgaagaaaaa gttctttgtt tgggtccggca gcgtacaggc caccactgtc caactgctgt 960
gatggtggtg ctcatcatgg tgtgggatgg catccctctt ccaatggccg accggctata 1020
cacagagctc acagagaatc taaagtcata caatgggcac cctaccgaca gaagatgcac 1080
cctcaatgaa aatcgtacct gtacatgtca aggaattgat ccagagactt gtggagcttc 1140
attctctttt ggctgttcat ggagtatgta ctttaatggc tgtaagtttg gtagaagccc 1200
aagccccaga agatttagaa ttgatccaag ctctccctta catgaaaaaa acctgaaga 1260
taacttacag agtttggcta cacgattagc tccaatttat aagcagtatg ctccagtagc 1320
ttaccaaaat caggtggaat atgaaaatgt tgcccagaaa tgtcggcttg gcagcaagga 1380
aggctgtccc ttctctgggg tcaactgcttg cctggacttc tgtgctcatc cccacaggga 1440
cattcacaac atgaataatg gaagcactgt ggtttgtacc ttaactcgag aagataaccg 1500
ctctttgggt gttattcctc aagatgagca gctccatgtg ctacctctt ataagctttc 1560
agacacagat gagtttggct ccaaggaagg aatggaagcc aagatcaaat ctggggccat 1620
cgaggctcctg gcaccccgcc gcaaaaaaag aacgtgtttc actcagcctg ttccccgttc 1680
tggaagaag agggctgcga tgatgacaga ggttcttgca cataagataa gggcagtgga 1740
aaagaaacct attccccgaa tcaagcggaa gaataactca acaacaaca acaacagtaa 1800
gccttcgtca ctgccaacct tagggagtaa cactgagacc gtgcaacctg aagtaaaaag 1860
tgaaaccgaa ccccatttta tcttaaaaag ttcagacaac actaaaactt attcgctgat 1920
gccatccgct cctcaccag tgaaagaggc atctccaggc ttctcctggt cccgaagac 1980

tgcttcagcc acaccagctc caccgaagaa tgacgcaaca gcctcatgcg ggttttcaga 2040
aagaagcagc actccccact gtacgatgcc ttcggaaga ctcagtgggtg ccaatgcagc 2100
tgctgctgat ggccctggca tttcacagct tggcgaagtg gtcctctcc ccaccctgtc 2160
tgctcctgtg atggagcccc tcattaattc tgagccttcc actggtgtga ctgagccgct 2220
aacgcctcat cagccaaacc accagccctc ctctctcacc tctcctcaag acctgcctc 2280
ttctccaatg gaagaagatg agcagcattc tgaagcagat gagcctccat cagacgaacc 2340
cctatctgat gacccctgt cacctgtga ggagaaattg cccacattg atgagtattg 2400
gtcagacagt gagcacatct ttttggatgc aaatattggg ggggtggcca tcgcacctgc 2460
tcacggctcg gttttgattg agtgtgcccc gcgagagctg cacgctacca ctctgttga 2520
gcacccaac cgtaatcatc caaccgcct ctccctgtc ttttaccagc aaaaaacct 2580
aaataagccc caacatggtt ttgaactaaa caagattaag tttgaggcta aagaagctaa 2640
gaataagaaa atgaaggcct cagagcaaaa agaccaggca gctaataag gtccagaaca 2700
gtcctctgaa gtaaataat tgaacaaat tccttctcat aaagcattaa cattaacca 2760
tgacaatgtt gtcaccgtgt ccccttatgc tctcacacac gttgcggggc cctataacca 2820
ttgggtctga aggttttct cccctctta atgccttgc tagtgcagtg tattttttca 2880
aggtgctgtt aaaagaaagt catgttgtcg ttactatct tcctctcacc catttcaagt 2940
ctgaggtaaa aaaataataa tgataacaaa acgggggtggg tattcttaac tgtgactata 3000
ttttgacaat tggtagaagg tgcacatttt aagcaaaaat aaaagtttta tagtttttaa 3060
tacataaaga aatgtttcag ttaggcatta acctgatag aatcactcag tttggtgctt 3120
taaattaagt ctgtttacta tgaacaaga gtcattttta gaggatttta acaggttcat 3180
gttctatgat gtaaatcaa gacacacagt gttaactcta cacagcttct ggtgcttaac 3240
cacatccaca cagttaaaaa taagctgaat tattatttca tgggtgccatt gttccaacat 3300
cttccaatca ttgctagaaa attggcatat tcctttgaaa taaacttatg aaatgttttc 3360
tctcttaaaa tatttctcct gtgtaaaata aatcattgtt gttagtaatg gttggaggct 3420
gttcataaat catgtaaata tatattttta aagcactttc tatttttaaa agtaacttga 3480
aataatatag tataagaatc ctattgtcta ttgtttgtgc atatttgcac acaagagaaa 3540
tcatttatcc ttgctgtgta gagttccatc ttgttaactg cagtatgtat tctaatactg 3600
tatatggttt gtgttctttt actgtgtcct ctcacattca agtattagca acttgcagta 3660
tataaaatag ttagataatg agaagtgtt aattatctct aaaattggaa ttaggaagca 3720

tatcaccaat attgattaac attctctttg gaactaggta agagtgggtct cttcttattg 3780
aacaacctca atttagtttc atcccacctt tctcagtata atccatgaga ggtgtttcca 3840
aaaggagatg agggaacagg ataggtttca gaagagtcaa atgcttctaa tgtctcaagg 3900
tgataaaata caaaaactaa gtagacagat atttgtactg aagtctgata cagaattaga 3960
aaaaaaaaat tcttgttgaa atattttgaa aacaaattcc ctactatcat cacatgcctc 4020
cccaacccca agtcaaaaac aagaggaatg gtactacaaa catggctttg tccattaaga 4080
gctaattcat ttgtttatct tagcatacta gatttgggaa aatgataact catcttttct 4140
gataattgcc tatgttctag gtaacaggaa aacaggcatt aagtttattt tagtcttccc 4200
attttcttcc tattacttta ttgactcatt ttattgcaaa acaaaaagga ttacccaaac 4260
aacatgtttc gaacaaggag aattttcaat gaaatacttg attctgttaa aatgcagagg 4320
tgctataaca ttcaaagtgt cagattcctt gggagtatgg aaaacctaata ggtgcttctc 4380
ccttggaat gccataggaa gccacaacc gtaaacactt acaattttgg tgcaaaagca 4440
aacagtcca gcaggctctc taaagaaaaa ctcatgttaa cttattaaaa taatatctgg 4500
tgcaaagtat ctgttttgag cttttgacta atccaagtaa aggaatatga agggttgta 4560
aaaaacaaaa tgtccattga tagaccatcg tgtacaagta gatttctgct tgttgaatat 4620
gtaaaatagg gtaattcatt gacttgtttt agtattttgt gtgccttaga tttccgtttt 4680
aagacatgta tttttttgtg agcctaaggt ttcttatata catataagta tataaataag 4740
tgattgttta ttgcttcagc tgcttcaaca agatatttac tagtattaga ctatcaggaa 4800
tacacccttg cgagattatg ttttagattt taggccttag ctcccactag aaattatttc 4860
ttcaccagat ttaatggata aagttttatg gctctttatg catccactca tctactcatt 4920
cttcgagtct acacttattg aatgcctgca aaatctaagt atcactttta tttttctttg 4980
gatcaccacc tatgacatag taaacttgaa gaataaaaac taccctcaga aatattttta 5040
aaagaagtag caaattatct tcagtataat ccatggtaat gtatgcagta attcaaattg 5100
atctctctct caatagggtt cttaacaatc taaacttgaa acatcaatgt taatttttgg 5160
aactattggg atttgtgacg cttgttgacg tttaacaaaa caagtatttg aaaatatata 5220
gtatcaactg aatgtttcc attccgttgt thtagttaac atcatgaatg gacttcttaa 5280
gctgattacc cactgtggg aaccaaattg gattcctact ttgttggaact ctctttcctg 5340
attttaacaa ttaccatcc cattctctgc cctgtgattt tttttaaaag cttattcaat 5400
gttctgcagc attgtgattg tatgctggct acactgcttt tagaatgctc tttctcatga 5460

agcaaggaaa taaatttggt tgaaatg

5487

<210> 475

<211> 3705

<212> DNA

<213> Homo sapiens

<400> 475

actcacaagg gccgggcccg aaccaccctg agcgcctcct ccgagccagg ctcgatcctt	60
cacactggga acggagacac tccggtccag tgtcacttgt cctcgagtaa gaggagaggg	120
atgacaggcg agcaacggag tcacaagggc tctgcagaga atgaagcgtg agtggtggtc	180
gtggaaggct tcccggagga ggcggtgcgg tagccgcggc tcggatgacg cggaggagcc	240
agccagagag gggaggggca gaggccctcc aggaggaggg acccgtgagt gaggcgcggg	300
ggattcagcg cccccagccc gggaggagggt gccttctgag ctccgggcga gcccctcccg	360
cccttcagg cggagcgccg ggcgtgggca gtgccagggc ccctcgcggc cgctgattgg	420
gtggtgcggc cgagcggagc ggctccgcgg gcgccgattg tacgtgggct ccttcctgt	480
ggatgacctg gacaccagg agagcgtgtg gctggtgcag cagcagctgt gggcgctgaa	540
ggactgtccc cgacgccggg ccgtcatcct gaaattcagc cttcagggtc tcaagatcta	600
cagcggggag ggtgaggtgc tgctgatggc tcatgccctg aggcgcatc tctactccac	660
ctggtgccct gccgactgcc agtttgcctt catggctcga aaccacgga gccagccag	720
caagctcttc tgccacctct ttgtgggcag ccagccagga gaggtccaga tctgcacct	780
gctgctgtgc cgctctttcc agctggctta cctcttgag caccctgagg agcgggcaca	840
gccagagccc tgcccagggc ccacagggga ggtgcccctg aagccactgt ccagctctgg	900
gggcctgggtg cgggagccct tcggccgtga tcaactctct cagaacgtcc atgccctggt	960
ctcctttcgg cggtgccag cagaggggct ggtgggcagt gggaaggagc tgccagagtc	1020
ggaaggccgt gcccgccatg cccgcctggg gaaccctac tgctcgcca cgctggtgcg	1080
caagaaggcc attcgagca aggtgatccg ctcgggggccc taccgcggct gcacctatga	1140
gaccagctg cagctgtcgg ctcgggaggc ctttctgcc gcatgggagg catggccccg	1200

gggtcctggt ggccactcgt gcctggtgga gagcgagggc agcctgacgg agaacatctg 1260
ggccttcgct ggcatctcca ggccctgtgc cctggccctg ttgcggagag acgtgctggg 1320
ggccttcctg ctgtggcctg agctgggtgc tagcggccag tgggtgtctgt ccgtgcgcac 1380
gcagtgcggc gtggtgcccc accaggtctt ccggaaccac ctgggccgct actgcttgga 1440
gcacctgccg gcagagttcc ccagcctgga ggctctggtg gagaaccacg cggttactga 1500
acgtagcctc ttctgtcccc tcgacatggg ccgcctgaac cccacctacg aggagcagga 1560
ctgtggggccc ccaggcaggc cgccccggac tctccggccc ctcagccatg ccaagtccga 1620
ggcagagctg cagggcctgg gctaagaggt agggccccgg tcccacaggc cccgcctcac 1680
cccggtcctt gggccccagc agcatctctg cccgtcctgc acccctctgg ttgccagttc 1740
catccagtca ccctgccctt ggagcagtct tccatcgcgt cactgtccgt gggaggggag 1800
ccctgagggt gggatatgcc aatggcttct tggagaacat gtggcctgct gagattccag 1860
gagggcaggt ggagttgcag gcttcggata accctttggg tggcttcgga tgacctgctg 1920
tgtggcttcg gatgctttgg gacttctggg cttctgcttt actcctgggg caggagcttg 1980
ttcacggcaa agctgcagcc ctctcctaag gaggctaggc cttggggcgc tgactgggag 2040
tctccagaaa gagggttttg gggaggcagg agtgagcttt tactctgggc aaagacctgg 2100
agtgagccac cctgtctatg agagcagaga tgactccatg gagcttgtgg gcaggaggct 2160
ggggatgagc cccatctagg ctgacagagc agggctgttt ctcacatgta tctgagagtg 2220
aaggaggggt gggaagggtc agagagggca ggaggggacag agggctgtac ctaacgctca 2280
cgcacggtgg actcctgtgt gcagaaaggg atgcgcacca gcagacaggg ccaagaatct 2340
ccatgctgtc tccactcaaa acctcagggc tgtgactccc gctttctcag aagggatgcg 2400
caggctcacc cttccccct aggaatcacc agggcacccc cacccccagc tcattctctt 2460
tagccatttg acagggaggg gccagcagtg agctgcaggc ttagaggggt gaccagggcc 2520
cttcccaact cgaccgcatg tggtttggtg gctgccttgg gagggaggct gtccgatgct 2580
gacattcccc ttagcatggc cctgaccgtg gctgtcaggg gccaccttgc ctcaccaggc 2640
cagccccact gggaatgggg tcagtcacag cagaaccgtc gaaaggtgga cctgatgtgg 2700
gccctgccgg gggcgcttgg cctcagcggg ccatgggaga cccagggaaa cgactctagt 2760
gtgaggcagt ggtcctgcca gtgactgaca aaccctcttt gtaagcaaac ttgacaaata 2820
atgaatctac tgaactcagt tatagaacaa gttcattttg catgaacttc tcttattgaa 2880
gcagaagcca cgtcatgagc ctgggggctg ccctctcccc gtctgggagt gggacagaac 2940

tgttcagtgc cttgaaagtc acagatttct gactcctgga aggaactggg cagtcccacc 3000
 agagcagaaa gaaaggaggc aaacttgggg agtgagaagc cagcctccca gaggcccagg 3060
 cctcgtgttc cccacctcca accctcccgt gaggagaggg gcttggcctg ggaccttgta 3120
 acttccttgc aagttaagtg agctatcctg tcacaaaaga tagaaggaac tgcccttttg 3180
 gacttctttt cactggaac ccagcactgg ttttatgttg agtgagtggg aagctgggac 3240
 tctgttttac agccatctgt actggagcct ggacaaacca ctggtctcta tgggaggccc 3300
 cagcctcaca tttccctggc aaggagagag aggttttagc atgtcctggg tctaggatta 3360
 cagcccagag atgggcactt aagaagacct ggtcattggt ccagacttgg gccaaaggctc 3420
 tcctctgtga gggatgggtt ttactggtga attacctgtg tggagaagct atcagggcca 3480
 tgtttagcac actgaaggga ccagtctcca ccaagcactt taacatccct ccagccagca 3540
 tagattgac tcgtgttaca gagagggcaa ggtttttggc ccctgtttgc agactccatg 3600
 tcttaatcag agaccacagt tttctctttg ttccaatctg cgccacctcg gtagccccac 3660
 tttccttgct gtgtggactt gaaacaaaat aaaatgtgtt gcttc 3705

<210> 476

<211> 3747

<212> DNA

<213> Homo sapiens

<400> 476

tcatataagg aagcccttta gatggtacat tcactaagac gtgtctgggt gtgacacctg 60
 ttgggaaaaa cagaatccta ggttctaaac aagaaaagaa cgcccttccc aaagggtccg 120
 cacactttct gctttgcagc ggatcaagtg tccttgtgag ggtgagactt ccttcaaggg 180
 aagggaagcc attgctctct ctgtagatag agcccagctg gtaacggggg agccacccaa 240
 ctgcaggggg gtgtatgttc aggtgtgaaa aacagaaaac tgggtctgaa catgaagagt 300
 tgcacagcag tagttcgaag aagctggcat ctctttggca aacaccaacc tcagcaaatg 360
 caactcctac acttcattcc caaggaccag gtgttgctcc ttaaggaact ctgtatccct 420
 ctctcctctc cagaacccca ttectcccac tggctgagct tttcctttcc tttccgggtc 480

accatagac cctctccgtc tgtaccagtg cgtctgtgtt gtgagcgtga cgaagccttt 540
cctgtgaaga gctttcatga actcattctc atactccttc cccatttcca cccatgggtgt 600
gactgttttg ctattcaaga ctatctgtaa aaatgtacaa ataaaagtga aaactgaaaa 660
taaaggggag ggagattgag attaaacaaa tgcaatgatg tagcccttag ttttctgagg 720
acttctgtgg acggccctaa aatcctgagt taggggtggga tctgaaggga gggataccat 780
tgacacagga ggtttttttc tggttgtttc tctcacagtc atcagtgctt gcttagaact 840
ctctgttcta aaggtttttc cctgtaaagt agaatgcact tccccaaaa taaaagtaaa 900
tcagcaatgt ttgaagggtc atggcaagggt tcatgacaaa gacctgactc tgggggtggca 960
tgagtggccc tgtcaccggc tcactcagggt ccttggggga gtctcattac ctcaccttgt 1020
ctccacgtct tctcagccaa atgggggatca ggggcttcca gggctctggg ggtgcgcagt 1080
ccccttgtgt attttgctgc tatttctaga gagactttga gcccttgcta gtgcgtgctt 1140
actgcatgga ggtaaattag gagatgtttt ctctctgcta ctctggcct ctgctttcgc 1200
ccctcagaaa gtgaccttga gctagcagcc agtttgact cagagtccag agccttctat 1260
ctaccgtttc attctcagat tccttttccc acccactttg acgatctcat tttactatca 1320
gtctctactg actgagcttt gctgcactgg gctggggtag gagaaagagc atccaaggag 1380
atgatgtgtg aattgctttg taatttatga ctctccatat aaatgtggct tgcagtgtca 1440
gaagcaggga gtctggccaa gggttgctac caaataagac tgaagatggg ggaggcagtg 1500
gtggcgtgga ggcagtaggc agaagatgtg ggttgggagc agaggtaaga tgaacggagc 1560
tttgggaagg acagatggca gaagcaccag aaaatcctca gcaaggcagc agagaaggat 1620
cctcaaagca gtaaccctga agtaatagga agtaggaaag aggagcaggg attaggtaaa 1680
tctgcagcat aaacagctgt ctccctgcag gactgagaag accagctgcc ccagagaggg 1740
gaggcacgtc gagcttggcc agtgacccaa cccatgatta gaggcacctt caatcccaac 1800
tttctctcc tctgctgggt cacagtgatg gaaccagctt caggaaggta gtatagacca 1860
gcgtcatcca atggaacat gatccaagcc acatatgcaa tttaaaatat tctagtagcc 1920
acatttttta aagtccaaag aaacagctaa aatcagtga ataatTTTT agactacatt 1980
ttaacctaac atgtcaaaaa tagtatcact tcagcatgga atcaatataa aaattactgg 2040
gatattttac attctttttt ccaaatgaag tcttcaaaat ccaatgtgat tttctctta 2100
gaaaacatct cagtctggcc cagccctatt tccagtgttc aatagccaca cctgactact 2160
ggttgctgta taggacagca cggacttagg ttcttcatta ggagactgat ggggggggtc 2220

cttcctggtg ggtcactcac tgccatagct cttgtcatag ctgatgaagg caggagtgag 2280
 tcttattatg ttggcctaga gtagaaagca cagagctatg tcgaggctgc tgtctcagcc 2340
 tctggaagtt ctgcttcacc tgcttagtaa gaggagatga ccactcctgt ggactgcatg 2400
 tcccatctgc ccccagaggg tgtcggcgct gcccagtc tgtcccttat gacctgtcca 2460
 agtcctagag gccaaagcag gtcataattct tcagctgcag gaatgtcagc tactgcctcc 2520
 cacccttaa cctgatcccc ttatcatata gtggggaagg ggcaggcagg ctttctctct 2580
 gtcaagaaca aagatctcta caacatttcg tcacctgggc cagtcacctg ctaatatcat 2640
 ctcaccaata tttggagctg ttttctgaat cccttaattt tcttaaatat ttatcttaaa 2700
 gtcaaatgct ataaaggaga taccctggga agggcagtg ccacaggcag actgggtctc 2760
 ctaggaggtg gtggtgttgg tgacaagttc tacttggact gggactcaac ccaccattgc 2820
 ctacctctct tccctgcctg gagaccttc ttaggattga agaaacctct tttgtttgtg 2880
 aaaaagatag gtatcgagat cttaatggag agaacagaat aaaatgcaag gagccaaccc 2940
 ctgggtattc tcaaagcatt tcaacggtca gtataacaag gtttgattga tttaaaatat 3000
 aacattctga gccctgtgtt actgagcaaa aatgagctga tttggtgagt atgttttata 3060
 tatggtcatt agacaggac cataactgac aaaactctca aacgcctgga gtgtttatgg 3120
 cccaccagat tattgctcag tcaatataaa tttatttacc tttattttaa tttgcatagt 3180
 gctttctgat tggctcagaca aggagtgggtg tgtactgcag gattctaaca atgcctctgc 3240
 ccttggaggc agcaattcct gtggttattg gtgctaaaat aagataaaat attatgttaa 3300
 tttgttctga tatgatgtga ataaatgtgt tgtttaatct taacaagaat gctacatctt 3360
 atcagatcta ttgtactgtc tgttccttct cataattaat taattacagg aaaggcgatt 3420
 caaaccagat cttgaaacta ttgtgatgtt ctgagaggta aatttaacag ggaagtggga 3480
 ggggggatga aaagggaat tgccaggttc ctgtgacttt gaaaggactg aggaagcaga 3540
 gagcatttgg ggacttcact gaaactgact gcatcttgca attttctttt tcgaattggc 3600
 agaaatattg tatttccatc gattgaagaa aaacaagtgt ctggtaatta attaaatgac 3660
 ttgttcatgg aaaaaataaa taatctgtca gttgtggaat gtaaactgat taaacaatta 3720
 aataaagaag attatgttgt gtgtttt 3747

<211> 3581

<212> DNA

<213> Homo sapiens

<400> 477

agccagagaa	cacaagaaac	aaccagtaac	tccaaagaaa	ggtcagggtt	tcaagaacat	60
tgtgcccccc	cggttgactg	tgcaagagcaa	gtacctcttt	ggatggagggt	cattctagct	120
gaacagttgt	cctactccct	gccatccttc	tttccacctt	ccaagattgg	acactgcttc	180
tcatggggct	ccttggccct	gggctggatc	aagaccacaa	tttattatgt	aagacatggg	240
gtgaagaatg	gtcaaggaaa	gttatggccg	tgagtgacat	ggaattagat	gaaaaggctc	300
aagtttgctg	aagagagttt	aaatttggct	tttgctcttg	gaaacgtcaa	aataatcata	360
agaagcactt	gtgccttaca	gagcaaataa	tccacagagt	gtcatattca	ttttgcaaac	420
agggtcacia	cagcagtcaa	atagaagcct	gaacaccag	agagttaaca	tacagattcc	480
ataaggataa	caagggttg	agcatgctgg	tgggttttta	agtcagatcc	acattgaacc	540
ctgtgacctt	ccggagggtt	taagtggaa	ccggggaaag	cagcttttcc	atacaaaaca	600
acaacaacac	aacgacaaca	aagaaaacca	gactctgctg	gatgtctata	atactcattt	660
gcagtaaggc	tttcaagata	caggaatttt	tatagcattt	gtattttaag	gatttagggc	720
aaatacattt	ttttttctac	gtgataaaaa	gaaaattagt	acttaaaagg	ttcaaaaata	780
tattgattga	gttatttttc	ttacataaat	aaattatatt	gatttttagg	atttaacagc	840
tgaaaaaacc	ctttctgctt	ccactggagg	caaaactgaa	caaaatgtta	gttaaataga	900
gagagcagca	tttctaagaa	atctgtggtc	agcattatag	accatctatg	ctacaaggat	960
gtcattaaat	aggatttggt	caattactgg	attcttcttc	tatgatcagt	tatagaattt	1020
ctggtttata	tctctgattc	ataaaacttg	gactccactt	tttgaagata	catctgattg	1080
atTTTTTTca	gtcatgattt	aacagacttc	tttgagatgc	tcatTTTaa	atttacataa	1140
tttataatcc	caaatgtata	aaagacaatg	aaaaaagcat	cataaataaa	taatgcaaaa	1200
tgaaatagtt	atgtcagact	tttggacctt	ctgataaatt	agcaaaactg	taacagaaaa	1260
agtaaaaaat	acagtaaatt	gtgacaacaa	aaagtgaac	tggtactagt	aacacttgca	1320
acatttccaa	gggtcctgcg	cagccctgcg	ccccagagt	actgaacat	gagcttactt	1380
caagtctcag	agtgtgaact	acctgtgaag	agtgaagacca	tcagaaggga	cgTTaaatg	1440

aaggtgaaag gacatgggga agtgctgctt aggcagggtt tttctcagtt cctaaacatg 1500
gagaagctga ggaagaagag aaaataatgt tgacttgcaa thtagtttcg attaaactgat 1560
aatTTggaat ttgggtccaa ctgtaagata taaacagaat ggagaaatta atggagaagt 1620
aacttttcat agctgtatta taaagggtgg cacacatttg acagcctcag acactcttga 1680
tcaaaggacc tactagcaag tgtcaaagtg ttgggcaact gtcttcttgc aggctccaga 1740
aagaacctta ttcttggtga aggaaagcct gaagtgaaaa tccattcggg cctgggtgctc 1800
tttaaacaca gagaggcaaa ttaatggcta gagaaatctg taagcgaacc aggtgagagc 1860
agagcgctgg ccgtgtgctt gtgaagcagc gtgtagctct acggagcgcg ggctccttgcc 1920
ccacccccgt cgacagcaat aactcatggg gggtaaagct ttctcgcagc aagaggaatc 1980
ttttcactgg tgagagggat gtatagaaaa taatgcctag tcagtcagta tttcttcttg 2040
ctgcagggtgt ctgaaaaacc accaaggggg aaattatatt actaccggta aggtttttgt 2100
tttttataaa gaaatgaata tatgtatTTT caaccattag ttatatactt ctgtctgtac 2160
tactcactta gtaatcatga taaaataggg aaatatTTT actcaaaaat atgcaccagc 2220
acttcctttt tctgtgcttt ttggttccct gtgacattct tcctgtgcaa cccagctcac 2280
agaaaaagag ctctcttttg tctctgttct tccacccttc aatggtaaaa ccctagacag 2340
ctttcttttg ccatttttcc tcctcaagtg agtgggaaac ttggaagaga agggggtagg 2400
gcgtgtcacc aagtactgta ttaactatga ttgctggaat gaactggata acagaatgag 2460
aattctgtgc ctcttagact aggtagacaa cacttatcta atgaagtggg tagaccctgc 2520
aactattaac atctgttacc atagttctca gacaggaaat caggtacgta atcttactta 2580
tggaacacaca ggttcttatg gaggtgaagt gaggggaagta acaaaccttt atgggataag 2640
aaacttacaa gtcacaataa tttcttaaat gaaaaaagtt ctaattgggtg tcgttggttg 2700
agtctttgag tgccccctcc ccagcctgtg ccccatgttc tctctctgcg ggcaaagggg 2760
cactgggttc ggcacagttc tcatcacgcg tgggctccct ttcacagctg ggagcaggct 2820
ctgggtggga gttgggggtg tcccccttg tcttcttctt ctctctcttc tggctctcca 2880
gacctactat ttccgagtgt ctggcctgct gcatggctgg cagagccatg ccataaccag 2940
gggagaggaa catggatggg taaatgagtc caggagatac tcctgggatg agaaatgggt 3000
taaaagccac aggactacta gtagttattg caggttcaga ctgatcagaa aatggacctg 3060
gaccaggctt gtcctcagct aaagtgtctg ttttcacatc atggctactc ggcttgtctt 3120
ccgcagtctt ttcagtcact gccgtaccac ttttcgttgt gcttgataga gacgccggag 3180

cagtggaagt gcaggtggtt gccatgggtg gactgaggag tcccccaaca ccaaacatct 3240
 ggggcacagc agccatgcct ggcagcatca tgggcagcat gctcagggtta cttttgacct 3300
 cttcacctgt tggcatcgtg gcaaagccag ctggaaaccc caccagcccg gtgaggggga 3360
 tgcctggcat atttctcatg ttctgaagtc ctaccaggtc catcccagca atcagtccat 3420
 tcatgaacag tggccccatt ccagagggtg agtctgccac aatggaagga gccttcagga 3480
 gttcgctccg aggccgcctc cccctcctgc gggggcccgt atctcgaaga ataggctcag 3540
 ccagagtgtg attgaacttg ttttctggaa gaaacccctg g 3581

<210> 478

<211> 3705

<212> DNA

<213> Homo sapiens

<400> 478

tgtccaggcc tggcctcttt cttgaggtgg ccaccaggcc caggccaggc cctttgccca 60
 agaagagagg gtctgccttg cctcactccc ctcttcagtc ccagtagact ctgctcccta 120
 gccctgagca ggaggctggg agcagctctg tttcctaatt caggaccca ctcactagc 180
 cctccaagag cctccgcca attgtagcca tgtaattgga acaaccata agtcctgctt 240
 cccagtccat gggagattcc aagtggccac tgcaggagtc actcacctcc ctctctccct 300
 gtaacttgcc acctgcagtt cttagggctg tggggtcaga tgggtggtgt gagaggcctt 360
 ggggctgggg aaggagagtg gactttggct cactctgcca tgagaacagg acaccatcct 420
 gcccagccca gacggggttg ctcttggtcc aagaggctac ctgctcgaag gcggagggtg 480
 ggagcagggtg tgccagggtc cagggtcag acttgggagg gcctaggcag aagccccaag 540
 ttctgttttc tgaggtatgt gctgcccttg gcttcagcat gagccttggg agcagaaggt 600
 gaggaacctc ctctgccttg gtccctgggt ggaatcttcc catgtccttg gccctgcctg 660
 ggggtgtgtg tgtgtgctcc tgcactttgt ctgggagtgc agtgaccggg accagaacct 720
 tccccacctc aattagggct tagccatctc cctgtcccca gcacccctcc ccagcccaca 780
 gtggtggcct ctgcctcttt cctggagaga gaaggacagt gcacggagag gtttccagag 840

cacaaattgt tggttcctag cacaaattag atggttttga gcacaatggt gaagcacact 900
cccctccctc ctcacctggg gtccaatgtt ctgtctagtgc gcagcttttc ccctggaaca 960
ggggtccccc gagttcacag gcttatcccc aggaagcctc actcctgggg aaagacagat 1020
aatttcactg cccctttgag ccaccactca ctctccttat tacacaagca cagccgcccc 1080
gtgtgcacat catgtgcaga caccttggaa acctttccca agccttcctg gcccacagtgc 1140
gccagtgcc taggcagtgc tgtggacagt agaggctgcc aaaggcaagg gctggtcttc 1200
aggatggagg ccagcctgtg cagaaggctg cagctgacaa cagcgacccc acctgccatt 1260
accttcaggg cctcctctgg aagagaaccc attctcagag tgcagccagg gaggaacctg 1320
accaagagt aatgtctgc agagagatgg atggatggat ggatagatgg atggatgggt 1380
tggggagtgg ggggtgatgg atggatagat ggatggatgg atggatggat ggggttggggg 1440
gtgggggtgg atggatagat ggatggatgg atggacggat ggggtggggg aaggaaggaa 1500
aggagggaga aaggagggaa tactggctcc atctttgaga gctctggtgg gcagggcaga 1560
aacaggccac agtgctcaac ccggacaccc tcacgaaggg tcgcaagtca ctcttgtggc 1620
tcagattgct cttaggacct ggagggacag accagaatca gggtcacctc ctttacctc 1680
gagttcctta ctgttcccc aagcctggga gcagtctatc cccaacct gccatctccc 1740
ttactcatcc ctcttcaca gtttcccc tctagcccc tctgccctac ctgtctttcc 1800
tgagtgtttg aggggagaga gagaccaca tctcccaaa gagatgagct tttggggcac 1860
aacatccac cgcagtcccc ctcacccgac aacacctcct acctggcccc ttgccaaatc 1920
ccaagcagaa ttagcaacag gaaaagcaga gcccaggag agacactcta ctatatatac 1980
tcttctatat attctgtttc tattgtatat tcaactctga catgtgggtg taaatgctgt 2040
taaatgacaa acccaatatt atactgtggc tgggtggacta ttttcatcct cagtgtctga 2100
cagatctatt ttcattgtat atttgatata tttttaattt tgtagcgtgt ggctgggcca 2160
ggccccagcg ggaggggctg agctggggct gtgtgcttgc taggtgtggg cgcgctagtgc 2220
ctcgtttag ccttttgctg tgtcttcgct gtgtgttaga cgtagggcct agagctcggg 2280
gtgtgtgtgt gcgtgctgtg tgtatggtgt gcacatacgt gagtgtgggt gtgtgtagcg 2340
tgctgatctg tgactcccag gtttcaccac cttcctgaag accacgctcc ctccccctgc 2400
ctcctcctcc tcctcttggc tctattggga gcctcagggc cggcagggtg cttcgggagc 2460
cccctgctac ggggaaaggc atgtgtttct tgctggtgac tcattgcctt cacaccactg 2520
ggtttgccag aaacaggga gaggggcggt aagggaaaaa aaaaatcctc aaattttatt 2580

accagtcagc ttcttgcgtg tcccagtaga atcgctagct cttctccaga ggaaaagtac 2640
 taggattctt aagatggcga gacccaaga gggatctcat agcactgctg catttgccgt 2700
 tgacgcagtc ctgacagtat ttgaaaaggg ccgcctgccc cctccccact gtgcttttga 2760
 tgcctttgga gtcaaaggca ggtgggggtca cctgatgagc taagatccag cccagaatc 2820
 ctggaggagc aggaggtagc aggagaggac caggccccca agtcccttca cagggtcccc 2880
 accccccactg gctttgggtg tgtccacaca gtgcccacca gaaggcagag ggaactccag 2940
 ggcaggggatg tgcctgaaag agtcaacagt cccctgatcc cctacctctg cctgcctcc 3000
 agccccatca ccagcttctt gctcaggag acttccgccc tcctcactga ggcaacatga 3060
 agcctgaggc ccagatgggg gctgaacagg tagggcacat cagttaatgc cagtgaggtc 3120
 agcttctgcc ctccagcaat acatgtgcag gggttgctgc tttcccagtg ccaggagaac 3180
 ccccgctccg agtcagcctg tgtgggtcat gaggctgggg cccaggagac acgggtcccag 3240
 gcactgcaca ggctgcagt attaccaggc ggaggggctg cttttctgcc cttcctcacc 3300
 cccacgcccc accccactcc cccagagtac tccccactgt gaaaagagct ggaaactaaa 3360
 ctggttagaa tgaacctggc tccctgagca tccctggatc cttcaaatag gccctgagat 3420
 gtgaggtctg ctgcttctact ggggccccgat gactttggct gggggagggg gcctagggcc 3480
 tcttctcatt gaaagctctg ctttatacag acccaagcat acacaccagg ccgtcacttt 3540
 gggttctggc ataagttcag aacaattcaa gtccatgtgt cccatggctg gtcagagccc 3600
 tgggtcaaaa ccactcagcc caggggaggg gatgaggcat tgtcaccta gaccctctt 3660
 cctctctccc ccacatagt gtgcaataaa gtgtctgttc ttacc 3705

<210> 479

<211> 5531

<212> DNA

<213> Homo sapiens

<400> 479

gctccagcgg tcggcatggc agctgctacc tcgctgggac aggctctggg cccacgcgtg 60
 ccgcgcagtc cctacagaac tgcagttgtc ttgtcttctc ggagtgcctt cggtacttt 120

tcccttatta ctttagctcg atacacgttg ggctgccttt cacattcgga tattacgctg 180
ttcgagtgct gacgggaaag gcagcccttt gacacgcacg cgaaatgtcg cctgacgagg 240
gcaaaggtga cagttactac cggaagtacc ctatctcaga tacccttttag attttcccc 300
attgaagaaa aacgaggcgg gaaaaacgct gttagggttt aactcaggcc ctggctcctt 360
ctcgaacgaa ttagcggaac acccgagga gccttgtttg gcttccactt ttcggcccgc 420
ccagttctct gagcgtgcgg cggacgacgc cgggtgattgg ttgagcgaat ggaaacggct 480
cggcgcggtg gttggccagt gggaaattct gtacgttgtg attggtccac aggaacgact 540
cggcgcgcg cggggagcga gctttgaaag ttgagcacgg cggcggcgag ccggtgcctt 600
gggatcatgg tggcgttgcg gggccttggt agcggcctgc agccctggtg tccgctggat 660
cttagactcg aatgggttga cacagtgtgg gaactggatt tcacagagac tgagcctttg 720
gatcccagca tagaagcaga gatcatagag actggattgg ctgcattcac aaaactctat 780
gaaagccttt taccctttgc tactggagaa catggatcta tggagagtat ctggaccttc 840
ttcattgaga acaatgtttc ccatagtaca ctgggtggcat tgttctatca ttttgttcaa 900
atagttcata agaagaatgt cagtgtacag tatcgagaat atggccttca tgccgctggg 960
ctttactttt tgctactaga agtaccaggc agtgtagcca atcaagtatt ccaccagtg 1020
atgtttgaca aatgcattca gactctaaag aagagctggc cccaggaatc taacttgaat 1080
cggaaaagaa agaaagaaca gcctaagagc tctcaggcta accccgggag gcatagaaaa 1140
aggggaaagc caccaggag agaagatatt gagatggatg aaattataga agaacaagaa 1200
gatgagaata tttgtttttc tgcccgggac ctttctcaaa ttcgaaatgc catctttcac 1260
cttttaaga attttttaag gcttctgcca aagttttcct tgaaagaaaa gccacaatgt 1320
gtacagaatt gtatagaggt ctttgtttca ttaactaatt ttgagccagt tcttcatgaa 1380
tgtcatgtta cacaagccag agctcttaac caagcaaat acataccaga actggcttat 1440
tatggattgt atttgctgtg ctctcccatt catggagaag gagataaggt catcagttgt 1500
gttttccatc aaatgctcag tgtaatatta atgttagaag ttggtgaagg atcccatcgt 1560
gcccccttg ctgttacctc ccaagtcac aactgtagaa accaggcggg ccagttttatc 1620
agcgcccttg tggatgaatt aaaggagagt atattcccag tcgtccgtat cttactgcag 1680
cacatctgtg ccaaggtggt agataaatca gagtatcgta cttttgcagc ccagtcctta 1740
gtccagctgc tcagtaaact tccttgtggg gaatacgcta tgttcattgc ctggctttac 1800
aaatactccc gaagttccaa gateccacac cgggttttta ctcttgatgt tgtcttagct 1860

ctgttagaac tgcctgaaag agaggtggat aacaccctct ccttgagca tcagaagttc 1920
ttaaagcata agttcctggt gcaggaaatt atgtttgatc gttgcttaga caaggcgcct 1980
actgtccgca gcaaggcact gtccagcttt gcacactgtc tggagttgac tgttaccagt 2040
gcgtcggaga gtatcctgga gctcctgatt aacagtccta cgttttctgt aatagagagt 2100
caccctggta ccttactgag aaattcatca gctttttcct accaaaggca gacatctaac 2160
cgttccgaac cctcagggga gatcaacata gacagcagtg gtgaaacagt tggatctgga 2220
gaaagatgtg tcatggcaat gctgagaagg aggatcaggg atgagaagac caacgttagg 2280
aagtctgcac tgcaggtatt agtgagtatt ttgaaacact gtgatgtctc aggcatgaag 2340
gaagacctgt ggattctgca ggaccagtgt cgggacctg cagtgtctgt ccggaagcag 2400
gccctccagt ctcttactga actccttatg gctcagccta gatgcgtgca gatccagaaa 2460
gcctggttgc ggggggtggt cccggtggtg atggactgcg agagcactgt gcaggagaag 2520
gccctggagt tcctggacca gctgctgctg cagaacatcc ggcatacag tcattttcac 2580
tctggggacg acagccaggt cctcgcctgg gcgcttctta ctctctcac caccgaaagc 2640
caggaactga gccgatattt aaataaggct tttcatactt ggtccaagaa agaaaaattc 2700
tcacccactt ttataaaca tgtaatatct cacactggca cggaacattc ggcacctgcc 2760
tggatgctgc tctccaagat tgctggctcc tcaccaggc tggactacag cagaataata 2820
caatcttggg agaaaatcag cagtcagcag aatcccaatt caaacacctt aggacatatt 2880
ctctgtgtga ttgggcatat tgcaaagcat cttcctaaga gcacccggga caaagtgact 2940
gatgctgtca agtgtaagct gaatggattt cagtggctct tagaggtgat cagttcagct 3000
gttgacgcct tgcagaggct ttgtagagca tctgcagaga caccagcaga ggagcaggaa 3060
ttgctgacgc aggtgtgtgg ggatgtactc tccacctgcg agcaccgcct ctccaacatc 3120
gttctcaagg agaatggaac agggaatatg gacgaagacc tgttggtgaa gtacattttt 3180
accttagggg atatagccca gctgtgtcca gccagggtgg agaagcgcac ctctcttctg 3240
attcagtccg tcctggcttc gtctgctgat gctgaccact caccatcatc tcaaggcagc 3300
agtgaggccc cagcgtctca gccaccccc caggtcagag gttctgtcat gccctctgtg 3360
attagagcac atgcatcat taccttaggt aagctgtgct tacagcacga ggatctggca 3420
gagaagagca tcccagccct ggtgcgagag ctcgaggtgt gtgaggacgt ggctgtccgc 3480
aacaacgtca tcattgtaat gtgcgatctc tgcattcgct acaccatcat ggtggacaag 3540
tatattccca acatctccat gtgtctgaag gattccgacc cattcatccg gaagcagaca 3600

ctcatcttgc ttaccaatct cttgcaggag gaatttgtga aatggaaggg ctccctgttc 3660
ttccgatttg tcagcactct gatcgattca caccagaca ttgccagctt cggggagttt 3720
tgcctggctc acctgttact gaagaggaac cctgtcatgt tcttccaaca cttcattgaa 3780
tgtatttttc actttaataa ctatgagaag catgagaagt acaacaagtt cccccagtca 3840
gagagagcac ttcacagatg aacagcgatt caacatcact tccaaaatct gccttagtat 3900
tttggcgtgc tttgctgatg gcacccctacc cctggacctg gacgccagtg agttactctc 3960
agacacgttt gaggtcctca gctcaaagga gatcaagctt ttggcaatga gatctaaacc 4020
agacaaagac ctcccttatgg aagaagatga catggccttg gcaaagttag tcatgcagga 4080
agctcagaag aagctcatct cacaagttca gaagaggaat ttcatagaaa atattattcc 4140
aattatcatc tccctgaaga ctgtgctgga gaaaaataag atcccagctt tgccgggaact 4200
catgcactat ctcagggagg tgatgcagga ttaccgagat gagctcaagg acttctttgc 4260
agttgacaaa cagctggcat cagagcttga gtatgacatg aagaaatacc aggaacagct 4320
ggtccaggag caggagctag caaaacatgc agatgtggcc gggacggctg gaggtgctga 4380
ggtggcacct gtggcacagg ttgccctgtg tttagaaaca gtgccagttc ctgctggcca 4440
agaaaaccct gccatgtcac ctgccgtgag ccagccctgc acaccaggg caagtgtgg 4500
ccatgtagca gtatcatctc ctacacctga aacagggccca ttgcagaggt tgctgcccac 4560
agccaggccc atgtccctga gcaccattgc aatcctgaat tctgtcaaga aagccgtgga 4620
gtcaaagagc aggcacgga gtcggagctt aggagtgtg cctttcactt taaattctgg 4680
aagcccagaa aaaacgtgca gtcaggtgtc ttcatacagt ttggagcaag agtcgaatgg 4740
cgagattgag cacgtgacca agcggggccat cagcaccccc gagaagagca tcagtgatgt 4800
cacgtttgga gcagggatca gttacatcgg gacaccacgg actccgtcgt cagccaaaga 4860
gaaaattgaa ggccggagtc aaggaaatga catcttatgt ttatcactgc ctgataaacc 4920
gccccacag cctcagcagt ggaatgtgcg gtctcccgcc aggaataaag aactccagc 4980
ctgcagcagg aggtccctcc gaaagacccc tctgaaaaca gccaactaaa cagcgcctcc 5040
caccagtgtc caggcaggca ggagcccttg aggaagcagt ctcgtgtcct ccgtgtgaag 5100
gcagctggat cacttcccgc agtccttggg cagcgctttg ctgtggaaca cgagagctcc 5160
tcctcagggg cctggcactc accttctatt ctgtatgatg tatttggtta aacactgtca 5220
aataatagag atgtgccaga tttagatttt cttaccctaa tctgtttaat attgtaactt 5280
tattccattt gaaagtgtca agcccattca gataagctat aatctggtct ttaaggaaca 5340

caactttaaa actgcagctt tcttttatat aaatcaagcc tctgttaact tgaattcctt 5400
 atagtacata ttttcccatc tgtaatgacg aaattttgat tctaataattt tttctattat 5460
 ttataagtgc aaatttttta aaaaagtgtgta cagcttttcta aaagtaataa aggttttagca 5520
 taaatacagc c 5531

<210> 480

<211> 4310

<212> DNA

<213> Homo sapiens

<400> 480

atccatcagt atactcacgc aacattgac caccaccaa ccccttcac catcagtcga 60
 cccatggaac atccattcat ccagccatcc attcatctac ccatctacct actcattcat 120
 ctacctacc accacccat ccattcatcc atcagtctac ccatgcaaca tccattcatc 180
 caaccatcca ttcattcaac catccattca tctaccacc tactacca gtcattccact 240
 cacctacca tctatccatc catcaatcta ttcattgac tttcatccat ccaccaccc 300
 atccattcat ccatcaatcc accaatgagg caccattca tccaccacc cacttatcca 360
 tctattcatc taccacca cttatccatc tattcatcca cccaccatc catccatctt 420
 cccaccacc catccattca tccaccacc catccattca tccatcaatt cactcatgca 480
 acatacatcc acctaccaa ccatccatcc atccatcatg cagacatcaa ctgggcttgt 540
 aattgttgaa gactgttagg tacagaagca tctataatgc acaggttctc gattgtgaaa 600
 aggggttgtg tacacaccag gaggcacag tgttgtgtga tgagtaagcc atgagataat 660
 gcatgtgtc tactcagaca aaaatggatg agcagagggt ggaatgtggg tgttggtgct 720
 gagactggaa ccacatgtat gttggtctcc atccatcca gggcctttgc tgttacagcc 780
 catttcttag caaacacca gatgaatcag agatgcatgg atgtactcgc agccagcaca 840
 ttctgtcgg gacagacata tagcccaagc atcttgacct ccaggtggca tgtctgcacc 900
 accgtgtgca acctagtgga tcgtgagcag ctgggggtgc agctgccagc actcagggtg 960
 cctgaggagt gaacagtggg gggctgagcc acaagaggga gaggcattgg agggaggtgg 1020

tccagctgga ccctttctcg tgggaggtgc agaacctggt ctaggaccac tgaacttgt 1080
tgtgttgcca ggaacaagcc agctcacacc agctggaaca tgggcgcat cctggagggg 1140
aagcgagtg gctttgcacc ctgtgggccc aaagagcaac tttccatgga gatgatccta 1200
aaggctgagg aagggaacca cgaatggatt tgtaggatcc tgaaggacaa ctttgctagt 1260
gctgacgtgg cggacgcaaa gggctacact gtgcttgctg cggctgctgt aagccccaca 1320
ccctcccagc tggtgcccgc aggagcttag ctgtgagggt cacacatgtg ggtggccctc 1380
tgtggccccc tctgcaggag cagagctgag gtacatgggg aactgattg tccacacctc 1440
cacctcgccg ttcagcagaa acccactcag ctgagtgtga cactcgtggt ccagtgcaga 1500
agggtttggg gcagagtgc tgttccattc ctctgtcca cacttgtccc ttgccaagc 1560
tcccgaatga gacttggttc ctgccctgcc atgggggtggc ctcagtgggg catcaggaca 1620
cccagtgacc cttcccaccc ctgaggggcca ggtgcatcat cctgagtcct gcctcatctc 1680
cctccagact cactgccaca acgacattgt caaccttctc ctggactgtg gggccgacgt 1740
gaacaagtgc tcagatgagg gtctcacggc actcagcatg tgtttctcc tccactacct 1800
cgcccaatcc ttcaagcca atgttgctga acggaccata cctgagcccc aggaacctcc 1860
aaaattccca gttgttccaa tcctttcatc atcatttatg gacacaaacc tggagtctct 1920
gtactatgag gtgaacgtgc cttcccaggg tagctatgag ctgaggccac cgccagcacc 1980
actgctcctg ccacgcgtct caggcagcca cgaggcggc cacttccagg acaccgggca 2040
gtgtgggggg tccatggacc acaggagcag ctctctgaag ggggactccc cgttggtgaa 2100
gggcagcctt ggccatgtgg aaagcgggct tgaggacgtg ttgggaaaca cagaccgggg 2160
cagtctgtgc agtgctgaga cgaaatttga gtccaacgtg tgtgtgtgcg acttctccat 2220
cgagctctcg caggccatgc tggagagaag cgcccagtcc cacagcttgc tgaagatggc 2280
ctgccctca ccgtgcacca gcagcttcga caaagggacc atgcggagga tggcgctgtc 2340
catgatcgag taggtcctgg caccagctgg tgggggtgga gggccaccat cagggtgaa 2400
tcctatgctc agcagacca cgtctcttcc ctgtgccagt gggaggcggt gtgtctggag 2460
atgtgtgtct gaatgtgtga gcatccctgt gtcgggtggc ccacgccatg gccagccctg 2520
tgggggtgcc acggtgacgg gctgttttca gtgccacccc agccctgtgg gggtgccacg 2580
gtgacgggct gttttcagta ccacgccagc cctgctttgg cctttggcac tggcctgaag 2640
tgtctctgtg ggagcctcag cagggggccac tgtcagggt cctatcctag ccatagtga 2700
cgtgagtgac acctgcctgg gcagctctca caccctgct gtccaccctg tctataccag 2760

tgtgtctcaa aatgtggtct atgcaccccc ggggggtccaa gaccctttca gggagtctgt 2820
 ggggtcaaaa tgattctctt gataaccctg agactctgtt agccttctcc ttgtgttgat 2880
 gttggtggat ggtatgaaga cagggccgtg cagaccacca gccccagcg tgcagggcag 2940
 cagtgcccg cctgcttggg ggcatggat tccttcacca cgggtgtgcac ttgcggggat 3000
 gcctgtctca ctgaagaatg cctttgacaa agcagaaaag caatgacaaa ttgcattaaa 3060
 tcttgtcct tgcgtacaca cccctcgaat attctgggtc ggaaaacatg ggaaggacac 3120
 tgatgtgtgt ctgccacaga ccaaggcaca ccgcttcccc gcaagaagcg cttccccag 3180
 ggccagagta gcaacagaat gcggcatctt cccaacctcc tgccccattt ttgattggaa 3240
 gaatgaccac tggatatgtg ctgttcattc tcctgaacac agcctgccac ttttaaggaaa 3300
 acatatgaca ctatttgttg ctggcgaaat ttacattttc aagtgaatag cagaattctg 3360
 gacacttgcc accaccacca agaccttcat agcttccctt aactttgaga catgggtgtt 3420
 cagaggtttt tcacgtgaga tggcgttagc agcgcagttt tgtgatactg cctgaagaca 3480
 tgccgacagt gccagatct cttctattgg tgagccagct tttcccacac ggccaagttc 3540
 tgatgttgaa ccattgccag gtgggtgaag atccattgac agtgagaggt gggcccgtgg 3600
 gcttcagtgc agccaggcgc agaaggctgg ttcatgagtg tccagctccg ccaggtagct 3660
 agctcaccac cccagcctg ggttcattgta gttcaaataag gaagaccacg atgatcagaa 3720
 aggctgctca aatactcctt cgtccagccg cgtacctggg ggaggctgaa tctccactca 3780
 cttccaccaa ggctgtgcag agcagatagg ggaatccagc aaaggtggaa aacagtgcc 3840
 tccttctccc caactggttt tgttttgtaa aataactttt tgtgacagtg ttacttatta 3900
 gtaacatgca gtgggtttgt tatggttaac aagttggtga gcattattga gaggtgaagc 3960
 cagctgagct tctgggttgg gtggggactt ggagaacttt tgtgtctagc taaaggattg 4020
 taaatgcacc aatcaatgct cagtgtctag ctaaaggatt gtaaatagcac caatcagcac 4080
 tctgtaaatac agcactctgt aaaattgacc aatcagcgtt ctgtaaaatg gaccaatcag 4140
 tgggtctgtaa aatggaccag tcagcaggat gtgggcgggg ccaaaaaagg gaataaaagc 4200
 tggccaccgc caggctcccc accagcctgc agcgacaacc tgcttagttt ctttctgtg 4260
 ctgtggaagc tttgttcttt cagtcttcac aataaatctt gctgctgctc 4310

<211> 4597

<212> DNA

<213> Homo sapiens

<400> 481

```
actttgccag agcggccggg tccccattcc cattccttca aatccccctt ttcccggcag 60
ccgacctgta gaccaaggga agacaggttg aagctagaaa gagtcggggc agcagctctg 120
gtaggggagg gagcatccaa aacctctggc ttctgagcgc ctctcctgcc gcccatccac 180
aaagcccccc acagcctggc ggctgccctc gaccccgcaa aacaaaggac ttcagaggct 240
ggacctacag acccagatga gaaggcaaaa gcgtagggag gagcggcagg agatgggagg 300
ggcgggcccc gctcggagca gctgccgctt cctcccaaag tcccacgagg ggcctgagtc 360
acgggccacc gccctgggtc ggcgagctgg gggaagggat ctggacacct ggcgtgtccg 420
ggcgggaagc tggtaggggc ccctggggac agagcggagg accagtgggt ggggcgagaa 480
gagggcagtc ccgcagcgag tcccacgcgg ggtgggaggg atctaggccc cgccttctcc 540
tcggctccgc cctgcgcccc ctccctctc ctcattgtcc ttagacaaag cggtcgccgc 600
ccccgcccgg cccctgggtc tctgtctccg tccctcctcc tttgctgcct ctttccctcc 660
tcctctccct cctcctccc ctccctccag tctccggatc tccctcggtc cctctctct 720
cctcttctc tctctggacg cccggctcct ccgcaccccc tccccgggg gtcccgcggc 780
ctgtgagttg actgaggggc tcagacttgg ggagtgggtg tctcctcgcc cctgtccttg 840
ctcccgctcc tggcccggac cttggctgtc tcctctttgt gccgagattg tcagtctgtg 900
cggctacagc ggggtggaga cggccggctc tgtcacggct tcatgagagc ggggacgggg 960
cgcaggactt gcaggcgccg gggagaagag acatggagcc ggcccttggc actctggggt 1020
cgcgtggggc agtcggtggg ggaggcaggc ggtggtgaca ggacagggtg ggggtggacg 1080
ccagggttct gggaacgcgc tggcagccct gacgcccggg ttccgaaagt ctcgggggtg 1140
ggtacttccc ccgacccgcc tcggggggcg agtgcggggc agaggggtgg gggctgggga 1200
gaggcgtggc ccgagcggtg ctggaagcgg agccgggacc tttggggccc gcgctgagac 1260
gcgcccggct gctgccgccc cctcctttc cctcttccc tggtttccct tctcctctag 1320
acctgttcgc tctccgcccc tccttgccct cccaacaccc cctcaggtcc cgttgccctc 1380
tggtcctttc agggattcct ggtccttctc tcccacacta gcctccctgg ggtatcgctg 1440
```

aggcagcctg gcctgcaccc aggttccctt caccctgcc acatttctct cttctccctc 1500
acgccaaactt tcgttttcgc ctttctctct ctttctcaca tcctagagac ggtctttaat 1560
acgcattaac cctgtgctgc cacatctggc tcctgccctc attgcctcca atccggactc 1620
ttcctctcac atcaccccca ccaccccaa cttgggctca caacttctct tcactttttc 1680
catttcccca gttctctgcc ttccgtcttt ccctctgtcc tcatccttag cccctctgcc 1740
ctgctttgtg tcccacctct cccctccac ttctctcct cccacctca gtctacccc 1800
cgggctgtct cactctctgg agcctctcct tcctgttctc tgtccccagt gctccctacc 1860
ctcacctcaa gacgaccatg gccaccatcc cagactggaa gctacagctg ctagcccggc 1920
gccggcagga ggaggcgtcc gttcgaggcc gagagaaagc agaacgggag cgcctgtccc 1980
agatgccagc ctggaacga gggctcctgg agcgccgccg ggccaagctt gggctgtccc 2040
ctggggagcc tagccctgtg ctagggactg tagaggctgg acctccagac ccgatgagt 2100
ctgcggtcct tctggaggcc atcgggccag tgcaccagaa ccgattcatc cggcaggagc 2160
ggcagcagca gcagcagca caacaacgga gtgaagagct gctagcagag agaaagcctg 2220
ggcctctgga ggcccgggag cggagaccca gccctgggga gatgcgggat cagagcccca 2280
agggaaagaga gtcaagagaa gagagactaa gtccgaggga gaccagagag aggaggctgg 2340
ggataggggg agcccaagag ttgagcctga gccctctgga ggctcgggac tggaggcaaa 2400
gcccaggaga ggtgggagac aggagctccc gactgtcaga ggcatggaaa tggaggctga 2460
gtcctggaga aactccagag cggagtctga gactagcaga gtctcgagag caaagcccca 2520
ggagaaaaga ggtggaaagt agactgagcc caggggaatc tgcctaccag aagtggggcc 2580
tgacagaggc ccataaatgg agacctgact ccagagagtc tcaggaacag agtttggtag 2640
aactggaggc aacagagtgg aggctgaggt caggagaaga aagacaagac tactcggaag 2700
aatgtgggag aaaagaagag tggccagttc caggggtagc tccaaaagag actgcagagc 2760
tgtccgagac cctgacaagg gaggcccaag gcaacagttc cgcaggagtg gaggcagcag 2820
agcagaggcc tgtggaagat ggcgagaggg gcatgaagcc aacagaaggg tggaaatgga 2880
ccctgaactc cgggaaggct cgagaatgga caccagggga catagaggct caaactcaga 2940
aaccagaacc tccagagtca gcagagaagc ttctggaatc tcccgtgtg gaggctggag 3000
aaggggaggc tgagaaggag gaggcggggg ctcagggcag gcctctgaga gccctgcaga 3060
actgctgctc tgtgccctcc cccctcccac cagaggacgc tgggactgga ggcctgagac 3120
agcaggaaga ggaagcagtg gagctccagc cccaccacc agcccctctg tctccccac 3180

ccccagcccc aactgcccc caacctcctg gggatcccc catgagccgc ctgttctatg 3240
gggtgaaggc agggccagg gtggggggccc cccgccgcag tggacacacc ttcaccgtca 3300
acccccggcg gtctgtgccc cctgcgaccc cagccacccc aacctctcca gccacagttg 3360
atgctgcagt cccgggggct gggaagaagc ggtaccaac tgccgaggag atcttggttc 3420
tgggggggcta cctccgtctc agccgcagct gccttgccaa ggggtcccc gaaagacacc 3480
acaaacagct taagatctcc ttcagcgaga cagccctgga gaccacgtac caatacccct 3540
ccgagagttc ggtactggag gagctgggcc cggagcctga ggtccccagt gcccccaacc 3600
ctccagcagc ccaacccgac gacgaagagg atgaggaaga gctgctgctg ctgcagccag 3660
agctccaggc cgggctgcgc accaaggccc tgatttgga tgagtctgc cggcggtgac 3720
catcttcaa cataggata tacctccctc cttcttataa ctgaagatcc tggagcccgg 3780
aagattcagg gcagacagac cctgataatg agcctggcag ggaagggcaa ccaacatctt 3840
gtaacttgct tccccaccc tgtttctggg ggcagagcca attgccaat ttctacccta 3900
atccaaagtc cctggtgtgg gtgggggttaa acgtgctggt gcatcctagg tcatccaaga 3960
gtgagcgcca agtcctgaga aggggcacag aactccctgg aggggtggaga tggagcacct 4020
gcccccatg gcagggtaca ctctccccac agccttcctc cccaccatcc cgtggggact 4080
ctcgggattt aagcactcgt ctctctggga ggcccagacc ccaactcatt tataggcaca 4140
tctccttcat ttcctaggtc actgccccct tgtttacagc tctgcctcc tcccttgacc 4200
acagcctggt ttacaaattc catcagctcc cagccccacc tgccaaagtc ccaggtttac 4260
aagccacgct tacttgctgt gtctgcgtgg aattctctcc tctgtcccct ccagtctcct 4320
cattggagtg acctgaaggt gtggcttctc ccactttttc tcagtattac tttgccttag 4380
ttttcccaa gaggggaaggc tggaactctt aactctgtac cccttgatag ttatttaatt 4440
ctgtttctcc tagtggttca caattgaact gaattgagat ggtgtcgggt ggctaaggag 4500
acacctcacc tctccttccc cattgtgccg cctttatcaa ttgcctgttt tgttttgttt 4560
gttttttaac tttcataat aaaatggagt tctcttc 4597

<210> 482

<211> 4299

<212> DNA

<213> Homo sapiens

<400> 482

atatgatacc	ctcttctcta	tgcattggcag	gcatgactag	tcaatcagga	gcctctttcc	60
tagatgctgc	ctcttgtcct	ccagataaat	tgatgaggct	cttctgttcc	acttaccctt	120
tctcctatcc	ttggcctgtg	acaggcaaca	ctaattgatc	ctagcaccgt	ttcctgccac	180
gcccagaatt	ctcaccacag	tgccttcaggt	atcttgtacc	agtcgattga	catggctccc	240
gagatgaatc	atatttgcctg	tccatccctg	ctgtgggtaa	cacctccttc	ctttgtgcag	300
aaccctcagc	tggggcccag	tgtggggcgt	gagatgggcg	tgaggcccag	tccagcccag	360
cccagcggga	agcagcctgc	tactcatagc	tgagaactga	accagctca	aggagctcac	420
ctctaggcag	ccggcctcag	cccggctctt	acacttggac	agcacagcct	gggcctccag	480
tcctagcagg	ggctcccttt	tgcctggacat	tctcccactg	ccagccacca	aggcgtgtgt	540
catccctgcc	actgccctct	ggcggggctc	ttctggcaat	cccagggctt	ttcttgtagc	600
tgagccgatc	ctgtgccagg	gcctcgtctc	tcccagggcc	tgggtgtgca	gatagggcca	660
tgggtggggc	agtgcaggga	ggaattagtt	ggcctcgggc	ttgtggtttt	caggttcctc	720
atgtgttccc	cccagtcctt	ttgaatttgc	caggccaaga	ccaggaacct	gcttctccct	780
tgtaccccaa	gaggtttagg	ggttctctct	ttctaccag	aggccacata	gcccagcccc	840
gtcatgagcg	tggccgtggc	ctctgggtct	cccatctgtg	gttcccatct	ctaccgggga	900
gactcaggcc	aggacctca	cccaggaaag	agactggagc	agcctgccag	aggatccctg	960
ctttgccgcc	ccctgcctgc	cctgccaccc	ataccgcccc	atgtgcctgc	ctgcctgtca	1020
ctgtgcaccc	tagcccga	cggcctgccg	cctcttctgt	ctctcccacc	cctacttctt	1080
tctaagccca	gtcccattgg	gatgtgtccc	ttggatgcaa	acctgacttt	ctgctgaggc	1140
ctggctgctc	cctttctctg	gttcacaagt	ggtggatggc	taacgggcct	ttgtttgcca	1200
cccacagctt	gcagctccct	agggtgggat	tttgtctctg	aaccctgtgt	gagaagggca	1260
cctcagggtt	tctgccagac	gtcctgcccc	aaggcttggg	gtgccatccc	cagcatggcc	1320
ccgatcagtg	ccctggccct	gtggccatgc	accccaaagt	gtagcgtggg	ccctgtgctc	1380
cagctctgac	caacactaac	cccggctgga	ggcaggagag	ccaggccacc	gaggggtgtg	1440
cgggcacatc	cctctcctta	gaaaccgggc	caggcctagg	agtatggagg	cctcacatct	1500
ctctggggga	gcaccgacag	cctgtctccc	tgttttccct	cacctgggtg	tcattcagtc	1560

atggaaccag ggtctactaa gcactcgttc tgtgcccagc tctgggctga gacaaggcag 1620
tgccccacc ccgctcccc cgggtgaatg gaggcattcc cagactgcca gacctttggt 1680
gctaacacca ggacgtcctg gacagaccag gaagagctcg tctactgcgtt cccagagggg 1740
atgctgtgac ctcacagggg ctgctggcct cagccccctc acccaccacc aggcagcccg 1800
tgaatggcca gatgccaggg gtcactgcct gctccaaaca actgtgagag tcctgtctgc 1860
tcatcccagg gagggataag tctgtaccct tggccttaac aaggggcgcc cggtggcatc 1920
tcatgctgtc cccagcctgg gcagtgaact ctgcatggtc caggggtccc tgggtactct 1980
ttagccacct ccgtcttcat ggccacctgg ggcttagcac tcacatccag ccaccaagga 2040
gccgctggag ctgtgggctg gtggccctgg ttcagaatgt caggcccggg gtgggtcggg 2100
gtagtccgga tgaagcccct ccagaggacc gccccgact aggacagcat ctgggcccc 2160
gagggatcc tggaggcccc atctctggcg ctctgccgt gccgtgccct gccatgccct 2220
gcactggggg atgcaggcca gcccttcgca gctgtccatg gccatgtca gcccacctt 2280
tgtagcttgg ccaagtctgt cagtgcctgg gtcccaggcc gccctgtgcg tgcctccgtg 2340
tgcttcctgc agtcccagg gccctcgtcc tgagtggggg ggggggctct gcccacacat 2400
gcctccagcg gccagggagc atgggagcac agccccagg ctgcctgccg ttagttgtca 2460
ggtgagtccc tgcgcaggcc tgggttctga cccccacga gatgacagct acagccacac 2520
aatccccatc catggggctt cccagcctga aaccctgatg tgtcagtcaa aaggatgacc 2580
accaggcttg cagccagctt gggacatgag ccgcgctcct tcaatgtcct tggggagggc 2640
ccctgggctc acaccttga ccctagccct ctgtgtggat gctacccttg gaaccttacc 2700
tcacgcaaac aagtgcagtt cctcagatgt cacatttcat gtgccacagc cccacacaca 2760
agccccaggg actcctcca tgggccccct tccatcaggc ctctgtgagt ctatacccca 2820
tcagcccctg gccagtgag tctgtctgtc cgccacctg cccaggtggc gcctcatgtt 2880
ggtttcctgc tggaaatgct tgggacaggg tggaaactggg ttctctgggc tttggggctg 2940
gaggtgtctc tattgcggtc cctggcttcc cactgagctg tgggcaaggc tgctgcgctg 3000
ggggatggct ggggcacgga gcgaggttcc ctgctaagct gcgcgcttcc cccaggtga 3060
tccgcagggg ctggctgacc atcaacaaca tcagcctgat gaaaggcggc tccaaggagt 3120
actggtttgt gctgactgcc gagtcactgt cctggtacaa ggatgaggag gagaaagaga 3180
agaagtacat gctgcctctg gacaacctca agatccgtga tgtggagaag ggcttcatgt 3240
ccaacaagca cgtcttcgcc atcttcaaca cggagcagag aaacgtctac aaggacctgc 3300

ggcagatcga gctggcctgt gactcccagg aagacgtgga cagctggaag gcctcgttcc 3360
 tccgagctgg cgtctacccc gagaaggacc aggtgaggag ccgtcctgcg cagccaggcc 3420
 cagagccccc acctgggaga ggaagcaggg ctggctttcc ccaggacagg tcattttcag 3480
 gccatgttag ccaggagtct ctgaaatcat gtagcagatg cccacttgag caagcaaagg 3540
 agaaattggg ggtactttgt catcagggcc cagaaagttc cctcacggaa gccagtgacc 3600
 ggggcacaca ggggatgggg tcccacttgc tttgttctct tctcttttcc ctttccatcc 3660
 tgaggtagag tgaacatggc cacccttggc cccaatatta aaatgccttg ccgggcacgg 3720
 tgggtgggtc gccctgtaa tcccagcact ttgggaggct gaggtgggca gatcatttga 3780
 gctcaggggt tcgaaaccag cctggccaac atggtgaaac cccgtctcta ctaaaactac 3840
 aaaaattagc caggcatggt ggtacgtgcc tgtaatccca gttactcagg aggcttaggc 3900
 aggagatcgc ttaaaccggg gaggtagagg ttgcagtgag ctgagatcac gccattgcac 3960
 tccagcctgg gcgacagagc aagactccat ctcaaaaata aaataaaatg tccaagggtt 4020
 ggggtgtgtg gcttacacct gcaatcccaa cactttggga ggcaatgtgg gcagatcctt 4080
 tgggcccagg agttcgaaaa cagcctgggc aatgttgcaa aacccttctc tcaaaaaaat 4140
 acaaacatac ccaggcatgg tggcgcaccc ctgtaatccc atctactcca gggcgctgag 4200
 gtgggaggat cacttgagct ctccctggga gggtgaggct gcggtgaact gtgtttgtgc 4260
 cactgcactg cagcctgggt gacatagcaa gactgtgtc 4299

<210> 483

<211> 3760

<212> DNA

<213> Homo sapiens

<400> 483

ataggggaca agccaaggca cccatcaatg ccctctgttc atctgttcct gcaagtgtgt 60
 ggctgggaag tgcccaggaa ggctgacagg gcagggaagt tgatttgagg ccaagcatcc 120
 agtgctcctg ctccacctcc gtagcacgtt agccgtgatg ccagtgactt aaccacagc 180
 ttggggaagc tcaaaggctc cacattcgag cctcttgggg gaaattcggc aaacacccat 240

gtccaagttc cacactgtat ttcttgggat cgttccagca gatcgtggat tgcagcgagg 300
gctgctgact gcatgcggaa ctgtgagatg gaagggactg tgggcggcag ctccagggag 360
gagcatcgaa ccagatattg tctctgggag gctgggcctg gtgatgtggc aacgtcttgc 420
tccctgagag gtgatgggta tgctagggac gctcgctcag ggaacgtggg ccaagtcctc 480
tgaacacgaa gctcgagag ggggtgattc ctgtgaattc tgaaaggact tgggggcgtc 540
cagcaagagc aggagcttag atggtggttc cagggctggg gttgctgact gggacgagt 600
gacccccagg gtgggcatgg agtggggcac tggtgggag cctctgcctt gctgtgtcct 660
ggctgaatga acccaggtga ggaccagaaa cgctgttatt actgtttctg cggcacccga 720
tacactcacc tatgccaagg aaatTTTTTT ttttttggg ttctacagga cttgctgtgc 780
tcagatcctc cattcaagag agctacagac acgggggtgc tggtagagcag gagccgagac 840
catctggggg gggaccgacc aagagtttga ggtgtccagg gggtagcgtg aagatgacct 900
atcgagagg gtcccttctc attcacgctc tgaagtctgc acaggggcag gggctaccgt 960
gtccatttc agtttggcct ctgttgtatc agccagaggc cagcagaact ctatggtcac 1020
tccccgtgt cacggacaat ttgccacctc caccggcagc ccagggtctt gcctgaatat 1080
tctcgctga tcgtaggatt gtggggaggg atattctcat tgatctctaa ggaaaatatt 1140
gttcgctttt taaaaacatg atctggtacc atttcattga tctctttaag gaagaaaaat 1200
cacatggttg tcatgagcat gtaccgacag agctaggagg gccagctgtt ccgggttgcc 1260
cagggctgtc ttgtttttaa aatggaaagt tcgatgtcct ggaaaacccc tcagtcctgg 1320
gcaaaccagg tcacgtgga tagaaggagt tagacattca tatgatgtgc cgatgtcttg 1380
ccagttgtag agttttgtgt aaacctgtgt gtggcctgcg tgtccacatg ggtgtgtagg 1440
atggcaccta cacacatacc tgaggtcacc tcttggcca gtgagccaga atcctgggac 1500
ttcatcatct tttttttttt tttttgagat ggaatctcac tctgtcacc aggctggagg 1560
gcagtggcgc aatcttggct cactgcaacc tccgcctctg gggctcaagc aattctctg 1620
cctcagcctc ccgagtagct gggattatag gcgtgtgcca ccacgccctg ctgatttttg 1680
tattttttag tagagatggg gtttcactat attggccagg ctggtcttga actcctgacc 1740
tcaagtgatc tgcctgcctt ggcctccga aatgctgggg ttacaggcat gagctacat 1800
gcccggcctc agaatcctgg gacttctgct ggagccagg gtcagaacag actcctctac 1860
tgggactgcc tggcagggag gacagacgct caaggcggcc ccatgagaac acagccacct 1920
ggaaaaatgg tggaaggga gattctgcca acctcctccg actcctatc tcagttacac 1980

tgggtccataa tttcttttct ttttcttaag tctgtttcat tggtttctgt tcctggaaaa 2040
tggacacaaat tctgatgaat tcatgtattc tgcatccacg tgtcagcatc tccagccttg 2100
tgacgcagtg cctggctcag aacaggcaat caggccatgg catctgaatg aatgagaggg 2160
tgtgccctgg ccgtatctca ggcagcagat gcattcagct gcaggtaaca gacacgtaga 2220
caaacagtgg cttaaaaaag agaggcttta aaagtatttt gtttttcttt cttcacgtag 2280
caagaagtct ggcatttggc attcccaggc tgtggcgtga cagctttgtg aagttatcag 2340
ggctctcagac cctgacatat ttctgctctg ctaccctcag catgtagatt tgatcttcac 2400
ggctacaaga aacctgctgc tactgcaggc atcttacacg agttccaggc aggaagagaa 2460
aggaaagggt gacagagaca gaaagcaatg tcccagata cccttagttt tccatctcat 2520
aagccagaat gatgtcacgt ggcattccctg gatgcacagg aggctgagag atagtggcgt 2580
ttgttagctg gtctcctagc catcctgaat gccaaagtgt ttataaagaa acagaggcaa 2640
aatggcgatc aggcaggcaa ctgggtggtc tctgccacgg gcccttggc cattctttgt 2700
aatgatggtc tttgtcttgg accctatttt ggatatttgg gcaccttgt ggtaccctta 2760
tgtgctggtt ttgctgttgt ctgcccttca ggaatagcag ctgagtcaag ctgtccttgg 2820
ctgctccaat ctggagtcag aggttggaga tttccatggc tcccctggc tccttggggc 2880
ctcctaagaa aatgttttaa taaggaagtc caaggctgag acagacatgc tccttcttag 2940
agacacatgg gaacatgcct ctgctcacag ctggtagcca cagatgtaaa ccgtagccca 3000
tggaacggag acagtgaaga attgatggat aaatgaataa tgatgatgga cagcagatgt 3060
ataaaaggca taaaaggata gtgttagggc tggaatgtct tcccccaat tcatatgttg 3120
aacctttaat gcctaatact tcagaaagag actgtgtttg aagatatggt ctttacagag 3180
ggaataaagt taaaataagg tcattagggt gagccctaata ccaaaggatg ggtgtcctaa 3240
tcagaggagg agattaggac ccagacacac acacacacac agagccagggt gaggacacag 3300
ggagaaaatg gccacgtaca agccaagatg agaggactca ggaagaacca gccgactcca 3360
cccttcaaaa ctgtgagaac atagatgtct gctgtttgag ccaccctgtc tgcaagcagt 3420
cagcaagcat tcattgagtg cttgcagtat tcaaggcacc acagatacaa tgttgaataa 3480
ggcaaagcac ctgccctcag gtagcttgca gtcaggagg taagggtagt gggcagagag 3540
acctggaaac agatattaga cctgcactaa gcatgtgtgg ttattgaaca gtaaaaatgc 3600
caccacaaat tgcgatatga tgtaagtaaa atgcgtactg gctattgaag acttggcaca 3660
gaaaaataat gtaaaatctc attagtaatg gttttatatt gattacgcat tgaaataata 3720

ctatttttggga cagattgggt taaataaaat attaaatttg

3760

<210> 484

<211> 3885

<212> DNA

<213> Homo sapiens

<400> 484

catccaggag gctggcagga gagagtcagt ggcaccaggc tgaccaggga aactgagtcc 60
tgttttcctg tgcttctgcc ccgtccctag tccaggaccc cgtgactagc ctagcttggc 120
ctccccctct cccagcggga gctcatttct cataggccat ccctgagagc ctctcagccc 180
ttcatcgtcg gtcttccggt gtctcccgt gtagaaggag gatatggagg cggtccttgg 240
ctacctctcc ctgcaccagt ctgcagagag cctgactctg aagtggaccc ccaaccagct 300
catgaatggg actctggggg actccgagct ggaaaagagg tgggggcttt gggactcaat 360
cccaggagcc agggcaggga gtgggtttga cctcaggcag agggatggag aaaccccgt 420
tgctccagga ggccaacctc actctttatt tggacgcaa gaatagcagg gagcggctgc 480
ctggagtgat tccaagctc tctaggacgg agccaagcct ggccgtgaag aggtttgtct 540
gagccaagct ctcagcggct gagacggaca gctgtccatg tgccgagcgg gcagcacaga 600
tctcaggggt catggctggc tgtgtgcacc tcttggctat ggtcatecta tcttcagggg 660
agtttcgtgg ggtggtagga ccaggagaca aggaaggaag gaaggatggc aggtcttttg 720
acacagtgac agcagtctgg ttcctttcta gcgtttactg ggactatgcc ctcgtggtgc 780
ccttcagcca ggtcgtgtgc atccactgcc accagcaaag taagcctgcc ttgtcctcgg 840
ctcgggtggg aaggagagg ctgccttctg ccagctgtgc actgtgcgtg gggcctgtaa 900
gactcctcgt cctctccca tccttgttaa tggggctccc aggccatgct gtagcccagc 960
catctgcctc ctaccagcc tgggggcact ggccagcagg gtgtgatagc cgacgagagg 1020
gcctcagccg cactctccac gttcaccccc agagagcggg ggcacgcttg tgctggtgag 1080
ccaggatggc atccagaggc cgccgctgca tttccacag ggaggacacc tgctgtcctt 1140
tctgtcctgt ctggagaatg ggctgctgcc tcggggacag ctagagcccc cgctgtggac 1200

ccagcaaggg aaggggaaag tgttcccaa gctacggaaa cgaagcagca ttcgctccgt 1260
ggatatggag gagatgggca cggggcgggc caccgactat gtgttccgga tcatctaccc 1320
cggccacagg cacgagcaca acgctgggtga catgatcgag atgcagggct ttgggcccag 1380
cctgccagcc tggcacctgg agcccctgtg cagtcagggc tcctcctgcc tctcctgctc 1440
ctccagcagc tccccacatg caacccccag ccactgtagc tgcattcccc accggttgcc 1500
gctcaggcta ctgtgtgaga gtatgaagag gcagatcgtg tcccgggcct tctacggctg 1560
tgagtgtggg gcgcgccggg ctgtggcggg ctgggggcgg gcggccctgg gtcccagcct 1620
cctgctgccc accgctgccc accgcagggc tggcacactg ccgccacctg tccacggtgc 1680
ggacccacct gtcggcgctg gtgcaccata gcgttatccc acctgaccgg cccccggggg 1740
cctccgcggg cctcaccaag gacgtgtgga gcaagtatca gaaggacaaa aaggtgcaa 1800
ccctgggggtt ccaggggccac aggtcgaggg gctggggcgg gcaggagtga gggcttcagg 1860
gtaaaatgtg ccagtgggtg cggttgacag gccagggccg atgccacgga gtgaccaggg 1920
tcccggcaga atctcttgca gctgggcctg gggctgacac gggaaggggg ctggactggg 1980
aagccgtcct gcctccacat cgccctgtga ccctggacaa agctttgcct ctctccgggc 2040
gccatttcct gccccttaag gaaggagagc agaacgagat ctcatccac tgtgagctgg 2100
ggcacgggag gacgtggcca ccccaaagca ggccctgcct gggcttcagc agtcactaca 2160
ggccccgcc cagcccattc tccgtgggat ggggctcacc cagctgggcc acggtgactg 2220
tggaggctgc acagtcttga ctccccgggt ccctcagaac tacaaagagc tggagctgct 2280
gcggcaagtt tactacggag gcatagagca cgagatccgc aaggacgtct ggccctttct 2340
gcttggccac tacaagttcg gcatgagcaa gaaggagatg gagcaggtga ggggagcctg 2400
ttcccatggg gctgatgaga tggggagctg ggccagggga cgtcagggag gggaccttgg 2460
aagcctcagc cccttcccag ccggaagaa gcatggcagg gcagctccac cgtccttacc 2520
ctgaggcccc tcttgagtct gagactcagg acccaaggct cagtgcaggc ccagctcctg 2580
aaggggaggg cctggtgcac gcttcccca tggctcgtgg gtggtctgag tacaggtgga 2640
cgcagtgggt gcagcaaggt accagcaggt gttggcagag tggaaggcct gcgaggtggt 2700
ggtgaggcag cgggagcggg agggccacc agccacacgc accaagttct cctcaggcag 2760
cagcatcgac agccacgtgc agcgctcat ccaccgagac tccacatca gcaacgatgt 2820
gagccagacg ggacctggag ggttgggggt ctcgggggcc acccggttt tatgcacagt 2880
ggtcctgagc accagcctga cctctgggaa ctggtggggc cctgcgagaa aggcctaagg 2940

tgcctgtgtc tcattttctc caactggaaa tggctaactg tgcctctgct gcctacttct 3000
 ctgggtattg taggaataaa gtgagagagt gcatttgtct cagtttttagc caactatagg 3060
 gaaagatgga cttactggga tttaggggaag cctcctcct tgtagaaaga cctcaaagct 3120
 agcaacaggc agcgctgggt tctagtccca gatccactac tgacaagctg aatgtctctg 3180
 ggcaagcact tcccgtctct gggctctcagt ttcccctctc caccatatac ctctgactgc 3240
 agaggcttcc tgagatctgt gggcctgaga ataggggagc ccgtagagca gccccattgg 3300
 tgtcgactgg cgagatcctt cctccccgcg atgttgctg tctactgtaca gaactgacta 3360
 tggcaggctt gttcggagca cgggagggtta gctctttctg gcatcactcc tgccttttga 3420
 acagcaagtt ctaaactgtg actgcctggc ccaaccaaca ctgataagtt tcaattttta 3480
 ggacgcttta ttaatttttc tttaaaattg cctctttaga taatgtgtat tcttgttact 3540
 ttactaaatc cttaccaaca ttaacagaaa atgtaagttg aagtaagtta aatataactg 3600
 gctgggtgtg atggctcatg cctgtaattc caacactttg ggaggcagag gtgggaggat 3660
 tgcttcagtt caagagtttg agaccagcct gggtaacatg gcgaaaccct gtctttacaa 3720
 aaaatgcaaa cctttgccgc atgtgttggg gtgcgcctgt agtcccagct tctcgggagg 3780
 ctgagggtggg gggaccacct gagccatgga ggttgaggct gcagtgagcc gtgataccac 3840
 cactgtactc tagcctgggc catagagtga gacaccctgc ctcag 3885

<210> 485

<211> 3968

<212> DNA

<213> Homo sapiens

<400> 485

ctttctgtct gggcttctgt caccagctt gtactcagcc ttttcagaag gaagagaacg 60
 ggcatattgt gagcgttttc tgggtgccag atcccgatgg aagaagtgga caacacagtg 120
 acactcatca tcctggctgt cgtgggcggg gtcacgggc tcctcatcct catcctgctg 180
 atcaagaaac tcatcatctt catcctgaag aagactcggg agaagaagaa ggagtgtctc 240
 gtgagctcct cggggaatga caacacggag aacggcttgc ctggctccaa ggcagaggag 300

aaaccacctt caaaagtgtg agccctgctt cgggctgagc agctgcaggg agcccccttt 360
ctgatgatga aactgatgct tgagccccga ccgtagaacc cacgtgcctg agacatctgc 420
tgcttggctc aaactgtagt ctttccgggc acaagaaacc agagtccctg ccagcctgcc 480
catccccctt ccagtcaggg ctccccaggg acaagggatg gccaggggag ggggtctgtg 540
gaagattcag gaaaaagaaa ggagaggcta ggggtggtgtg gaggggctgg tcccctgaca 600
cctgggcaga tggggctctc ttccagtctc ctaccctgca caagcagggc cttgatcttc 660
ctccaggctt ctcttcacaa gagactggga ggatccgtaa gggatgtcct aagagctgca 720
ccctggagat ggggtgtagg aagaagtggc ttcccttggg ggtgggagtg ggctggaggc 780
ctctggagaa gacctggggg gggggctgat gggggcaggg ccacagttag agactgcctc 840
tgcttcatag gataccagat cccccacagt cttccaagta ggaaacttcc tttccccctg 900
cccgggacct tatctgccta tccccctccc tgctcagagt ttttaagccc tctcaaccag 960
ggctggccac cctggtcttg agggttcctg gccacctagc ctgctcctct gctctctggg 1020
ttactgaggg gctcaggaag gggccccctg agccttcctg gagtaccga gtgctcccta 1080
tgcccttcca agcatttcta cttggagaat tgggccacag aggtagttag ccagtgtcct 1140
gggcctctgg gatgcccgcc ccattgctgc caatgctggc agccccctcc ctggcatggc 1200
aggaccatcg ccaactctggg cactcctgag ccagctctc ccctgcttct cccccctcta 1260
cctgagaggc tgcacctcc aacctcccat tggctcgctc cccccccca ccgtgcctc 1320
catcacgccc tgccccagg gtggttcatt tccagccct ggggtcaaggg cctgccttcg 1380
cctcagggac tctcttctt tggatgaggg ggtccttggg tttcccagct gcttctgct 1440
cagctgggcc accccctccc accctggggg tggggaggag cagggagtgg gtgcccacag 1500
ttttcctttg cttctcccag agctggtttg cacagccct gtgtgtgggg ctagaatgtg 1560
ccttagtcct gaatcctagc cttaccccc atcctctcta gacggtatgt cctgacataa 1620
cagcagagtc tgggtgtgtg ctggtgaggg ttaccagcc ctccccctcc cagggtcata 1680
gagggggcca tgaggctgga attggccagt gactgaatct tggagatgtc ggccaggtgc 1740
tcccattggg gtttctagcc tgccctaggg ggagggtggt atgttgggag tgggatctcc 1800
tgagtccttg ttgggcagaa ttggtgaggg cagggatggc agggaaaagt ggtaacaagc 1860
ctctctgccc atctacttcc aatccctctc tcccttactg attttttgat gccctgtctt 1920
ctgggcccct aggagggatg agagaggagt agcccccttt ttcagagagt ttgggggtcta 1980
cctcagagct ctccctgtca aaaagcagct gcaagcctcg caagggtgga gtgggggggag 2040

actgaggacc agtagtacct gcagggtgcc cgtggctgtg gccagtgtcc cttagccaac 2100
ctgctgggct caccagttcc ccgtctgac tgcctgtgcg cctcccatc ttctctaccc 2160
agaacctgtc atgggctggg gctcagattt tcctggcttt gggagcagac agaccagagc 2220
caccagccat tcagaaagct tcttatagct accttcacgc aaaactgttt tcttcttctt 2280
tctcaatggt gacatttgaa gaggcagagc accttggggc tcctccttct gtcttaagag 2340
aaagccaagg cacgtagagt agggagaaga agggcaccat cctctctttc ctccccaggg 2400
tctactgctg atttctagat ggatcatgca gcttctctcc gtcagctct ttccatctac 2460
caaatgggtg taataatact tacctacctc acaggactgt tgtgaggctt ggcaagtttt 2520
gtctaaaaac atctttttgg cttggaaagg gatctgggaa gccaggtatt aattgcaggg 2580
atagttccaa gtctgtcctg tcttcacctc tgtgtcccat ctctacaacc cacatacaga 2640
cacacacact ctctctctct ttctttccat cccaccccc ttggaattat ttagtctttg 2700
caatattaga aaccttgact ctgatgctta aagcttcttg tccatggctt ttgtttgatg 2760
gttttcaata gaggtgactg agattgtagg gggggcattt ttggttgccc ccatgcgtgg 2820
gggcactact aagaatgcta aacttagtcc ccacaacaaa gaatcatcct gtcccatgtc 2880
aacattatac ccatggagaa aactggcat ggatttgcac taggatgtat atgggcaaag 2940
ctgtcttccc caagtggaac ctcaagtcat gcaaactctt gatggtggct tccagggctt 3000
gtgggctaga gagagccact tacaaagtcg atcttgagag acctggccac atgcagctgg 3060
gctgagtgat gtcagcgaga ctaaagacaa agttctgagc tcctcatcaa ctacaaaata 3120
tgaaatcagc attccaggtt ctgggcttct ccccatgtcg taattgaaca gaaggcagcc 3180
cgaataaacc cctgatgtca gagaggcctg gggagagcag ccgatggggc tcagactaca 3240
tatggcaggc cgatcagagc tcttgtggag cgagggttg agagcatgct tgtgagatgg 3300
caggaggtgg ggtgtgcttg tgtggagtgt gcgtgtgcag gcagtgtggg tgcattggcag 3360
cgtaactgtg gagcggatgg gctctgcatg taagggtga tgcatgatgg gcagatgctg 3420
gacatttgag gagccgtctt tcttggcctg agctatgcct gttgaggcat ctggagactg 3480
agaaagaatc aaaggcagag aagaccagcc gtgctcctgc attccgtcac tccatgactt 3540
catctcagtg tcacagacag ctgccatcag agggctggca gtagggagt ccaggagcgg 3600
ggacttctcg ggaaaatcct ataacttgct ttactttact ttgtcccagg ttggagtccc 3660
taccctcca cctccacct gatatgcagt gcttttgact atcttatgca tggtttattc 3720
ctctggcttg gatgacaaca ataccatag tcaattttcc tatgtaacta tagatcaaat 3780

gatgcaacaa caggccttgg gaggcctcag gtgtgcgagt gcctctggga ggcgcagatg 3840
cccacacagc cagcactgac ttgtgttcga gcacagaacg gatataatca gtctggcctc 3900
tacaacaagt tttgcattgt agaattgtat ttagctttgc cttggatgaa ataaaaatta 3960
tgtttaat 3968

<210> 486

<211> 3413

<212> DNA

<213> Homo sapiens

<400> 486

ttgccccatc cctccccctgc cgattccctt tccccctgag gaagccctct gggagtgatc 60
ctgagggcct ctgatgcacg gagccctttt ccgcctgcat ggacaggctg ggcaccggca 120
gagacgcca cctgccctga cctgcctctg tggcctcacc cgagaagggtg ctgacagagt 180
cctttctgcg gaggtcaaag cacttcatga agccatcctg ggagccactg agcagcacgt 240
gggcttcggt ggggtggaag cagactttgt ttaccgtgcg cttgtgttct gtgaacagct 300
ggtcctgctt gttgcgggat ggccggccca ggttccacgt gaccaccacg ccattggtgg 360
ctgctgtggc cagcaggttc tcatccatct ggtgccagac cacgtcagca cagctcaggt 420
taagcgaagg cttgcgcccc acacgcaggt tcagcttttc cacgaactgt tcctcctcga 480
tggcatagat cttgaagatg ctacggcctg ccacgaccac ctgggctgcg tcgcggcaca 540
cactgatggc attggcgga gcatccaggt ggcagtgcac ggtgcggcct gtcagcacgc 600
tgccaccag ggctgtggtc acacgggaca tcttctccat ggctgcacag gtgatgaggt 660
caggggtcag gaggtcagtg aggtgggctg gcctggtcag cctgggtggg tcatcagttc 720
agacctcca cccaggttgg gacccagaa ctgcttggtc ccgggctggt cagtcttagt 780
gagccaatcc agggctgtct atcagccaat cagcctgaca ggcaagctca aattcactgg 840
agtctgtcag tccagcccat caccctggct gagcggtag gggacttcct agcttccctt 900
aggcctgtca gtttcatgtc tgacttccac ggaagactct agctggacat tcccggccca 960
ggccacctct cggtagcccc atcagccaga tctgggcagt cactaaacgc tcggtcagtc 1020

aatcccagca ggggagcgag gagactcccg ccgtcctcac tgtcagccct gagggcggcg 1080
gggctctagg gaggaacaaa agaggggagg gaacagaggg ctagaggggc ccggggactc 1140
aggcgataga cgcgggaagg gcccagaggg acgtcaagga ccgagctact taaggagctc 1200
gaggtgtctg gcgggaccgg aggcaggaga gaagccggcg accccggagt acagggttcc 1260
tgggagcggc gcagtggcgc gggggagcgg acgctgcggg acgagaacca gagggcccgg 1320
ggcagccctt ctccccgcg cgaaccccaa tcttttacta aaagcgcacg gttgtccgga 1380
accgccgcgc cggaagccgc tgtctttccc gtccctcgcc ggaagtggtc ctcttcttac 1440
ccatccctct caggaagtgg gcacaaactc tcgcccagaca ccacgaaagt tccgggtcag 1500
ggagctgcgt tggcagaggc caggaggggc ccgggattgg ggtctgcggg ccgccctggg 1560
cgttgccatt gcgctgcggt gctgtgcttg tgtgattggg ttattttattt atttatttaa 1620
acggagtctc gctctgtcgc ccaggctgga gtacagtggc gcgaccttgg ctcatgcaa 1680
cctccacctc ccaggttcaa gcgattctcc cgcctcagcc tccaagtag ctggcactgc 1740
aggcgcccgc caccacgcc ggctaatttg gctaattttg tatttttggt agacacgggg 1800
tttcaccgtg ttggccaggc tggctttaaa actactgaac tcaagcgate ctctggcgtc 1860
ggcctcctga agtgctggga atgcaggtgt gagccaccgc gcctggcctg ttttttaagt 1920
ctcaatttca gtattttaat gccatcacct attttaatcc ccaggtccat catgacatct 1980
ggcatccct agacaagttc cgagtgcgcc cagtcttccc ctcttctc actcctcgac 2040
ctcgggagca gcctcccaac ggctttcctg ggtccgtctt tccccttga tcagaaacct 2100
gcacagaagt caggcaccag gtcttctgcc tgaggcctct ggcagctccc actatgctgt 2160
gaatgaacct caactcctgg cctccgcctt cccctgcca cctccagcca tggcagcctc 2220
cacccccatt ccagcccac caagcccttt cctgcctcag ggacattgta cgtgcgtgcg 2280
atgcctctc cacagagcgg acctccctga ccaactgcct aatgggcttc tccatcgctg 2340
tggcctccac ggcacttgtc accaccatt cgtttgttta ctggttggtg tcggtcacat 2400
acgagtgtga attccaccaa ggcaggaatc acattctggc tcaatcccca ccgaatgccc 2460
agtgcctgac acacctgttc aaccagttgc tctcgttctt ttttttaaaa aactttttga 2520
gacggagttt cgctcttggt gccagggctg gagtgcagtg gtgcaatctt ggctcaccgc 2580
aacctccgcc tcctgggttc aggcgattct cctgcctcag cttcccagat agctgggatt 2640
acaggcatgg gccaccatac tgggctaatt ttgtattttt agtagagatg gagtttttcc 2700
atgttgggtca ggctgggtctc gaactcccaa cctcaggtga tccactcgcc ttggcctccc 2760

aaagtgctag gattacaggt gtgagccacc gcacccggtc tctttaaata tttttgagac 2820
 ggagttttgc tctttcgccc aggttggagt gaggtggcgc agtctcggct catagcaacc 2880
 tccacccccct aggttcaagc gattcagcct cagcctccct agtagctggg attataggca 2940
 accaccacca caccctgtta attttttgta tttttagtag agacagggtt tcaccatggt 3000
 ggccaggctg gtcttgaacg cctgacctca ggtgatccac ccgcttcggc ctaagtgcta 3060
 ggattacagg cgtgagccac tgtgcccagc ctcagttgcc tttttcgacc tctctgtctc 3120
 tcctgggtgt gagccattgt ctgctattgg tgcattttgt aatcttttgc gacatccttg 3180
 tccttgccctg ttactgtgta tagaacaggg tttatttctg cctctctgga aggggtgggct 3240
 agagtctgga tatgttggag ggaatattat gtgtagtgac ttcagtgttg tctctccctt 3300
 taaggaatgg gaggtcctct gccttccatg tagtcactgc tgtttcatt ctaccatgtc 3360
 ggcatccagc ctctaccctt ttgttgcaag aaagaataaa tctgataaga ggt 3413

<210> 487

<211> 3992

<212> DNA

<213> Homo sapiens

<400> 487

cactccaggc cggcagtgtt tctgctgggtg tcagattctc aagagccttg ttggtctctt 60
 ttgcaagtta tagaggccca agctataaaa tcagagagtt ttcccacaga cgcttcctag 120
 ataaccccat cttcattgta gatttctgct gaaagggttg agtggacca cgagtcacat 180
 acctcagctc tggggcaaac gcttgaacag ccttgctgtt ctgtccaggg gacacttttg 240
 cagtttttgt aatatgatta ggccaagaat tttccacatc ttcgctttct ggctcctttg 300
 tgctcaacag tttcttcctt atgtctctca cattttacta taagcagcaa ggagaagtca 360
 ggctacgctc tcaacactgc ttggaaatct cctcagctga atatccaagt tcagcaccca 420
 gcacttacac attctccttt cgacaaaaca ctagaacaca attcaacaa gttttttttt 480
 tttttgagac ggagtcttgc tctgtcacc caggctggagt gcagtggagc catcttggct 540
 cactgcaacc tccgcctccc gggttcaagc gattctccca cctcagcctc ctgattagct 600

gggattacag gcacctgcca ccatacccaa ctaattttca tatttagtag agatgggggtt 660
tcaccgtgtt ggtcaggctg gtctcgaatt cctgacctca agtgatcctc ccgccttggc 720
cccgcaaagt gctgggatta taggcgtgag ccaccacacc tgggccaagt tcctttataa 780
caaggatcag ctttctcca gcgccaata actcaataac atgtccctca ttttctctg 840
aggcttaacc aaaagcacct tttttttttt tttttttttg gtagagacag aggtcttact 900
ctgttgctca ggctggagtt cagtggatc atccccgtgc actgtaagct caaactcctg 960
ggctcaagcg atcctctcac ctacgtctcc caagtagctg cgactacagg catgtgccac 1020
cacaccagc taatgtttta ttttttatta tttatttttt gaatgtattg agacagggtc 1080
ttgtctctc acccaggctg gagggcagtg gcgcaatcat agtcaagtg attctcctgc 1140
ctcagcctcc tgagtagctg ggattacagg catgtaccac cacaccagc ttattttgta 1200
ttttttgtag agacggggtc tcaactatgtt gccaggctg gtcttgatca cctggcctca 1260
agtgatgctc ctgccttggc ctcccaaggt gctgggatca catgcgtgaa tcaccacacc 1320
caacccaaaa gcacctttaa cattcatgtt tctagcaacg ttctgttctt gatgatattt 1380
gtattctcta agaccacaga ggctgtctct attgctctcc cctcctctca ccagaattac 1440
ctttaacatc catactcta ccaacagtct cttaaaggca atccagacct tttctaakat 1500
gtacctcaaa cttctatagc cttgatatgg tttaaagtgc atctctaaaa ctcatgttga 1560
aatttgtcaa tgtattggta ttgagaggag ggccctttttg aggtagttac gtcattgagg 1620
ctctgcctc atgaatgat gaatgccatt attatgggtg agttagttac cttgaagttc 1680
agccccctt tttcctgcgt ctcatatgct tgcttccacc ttccacctt ctgccacggg 1740
atgacctca ccagatgccg gcgccatgct tttggacttc ccagcctcca gaacctgag 1800
ccaaatgaat ctgttgtctt tataaattac ccagtctgtg gtattctgtt atggtagcag 1860
caaattggact aagacaagcc tctactgact acccagttcc aaagccattt ccacattttt 1920
aggattttgt tacctaagca ccacacttcc tggtgccaaa acctgtatcc atttctgga 1980
actgccattt caactgggtg gcttaacaa cagaaatgga ttctctcccc attctgaaag 2040
ccagaagtct gaaatcaaag tgtcagcagg gcgttactca ccctgaaagt tctacaggag 2100
ggctcttctt gacctccca ggttccagtg gcccaggca taccttggcc tctggctgtg 2160
tcaactctgt ctcttctctc actgtaccat ggctgtcttc cctctgtgtg tctttgtcac 2220
ttctgttctt ataaggacat cagtcatgtt gcattaagga ccaacctac tccagtatga 2280
ccccatctga actgcaaagg ccctatttgc aaacatcaca ttctgaagta ccacagatta 2340

gaacttcagc ataccttgag gggacagaat tcaacccata atagaagcca tcctgtctcca 2400
gtcctcccaa ccaaccccca tcaaaatcgg gagacaggct gcaccccctg ccacactacc 2460
ccctgccaca ctgcctttgc tcaggttggc ctcatccatg cagctagacc cccagcctga 2520
cttacttcac ccctgtcttg ttcttggctg tgcagtggcc caggccagcc ctcagcatcc 2580
tttcttttct cccaccagta acagaaaatc cttctgtctt gggtcctgtt ggcctcacca 2640
gtaggacaca gagtatggaa gtgtccccag cctcggcctg agccacatcc ccctacttgt 2700
gtcctgtctt gcggtcactt gttctacat gtgtgtctgg cctgacctcc ccttcagatc 2760
tcaggtgacc tcagggccag gcccatggat aacacctgct atccctgccc agcgccacgg 2820
gccaggaagt acaagtgtgg cctgccccag ccgtgtcctg aggagcacct ggccttccgc 2880
gtggtcagcg gggccgcaa cgtcattggg cccaagatct gcctcgagga caagatgctg 2940
atgagcagcg tcaaggacaa cgtgggcccgc gggctgaaca tcgccctggg gaacggggtc 3000
agcggcgagc tcctcgaggc ccgggccttt gacatgtggg ccggagatgt caacgacctg 3060
ttgaagtta ttcgccact gcacgaaggc accctgggtg tcgtggcatc ctacgacgac 3120
ccagccacca agatgaatga agagaccaga aagctcttca gtgagctggg cagcaggaac 3180
gccaaaggagc tggccttccg ggacagctgg gtgtttgtcg gggccaaggg tgtgcagaac 3240
aagagcccct ttgagcagca cgtgaagaac agtaagcaca gcaacaagta cgaaggctgg 3300
cccgaggcgc tggagatgga aggctgtatc ccgcggagaa gcacggccag ctagcacggc 3360
cagtgccagg accgggcccga gggaggccag accaaggag gcacgcgcgc tgccgggcgg 3420
acagaggctg aggtcacac cccacaccg ggcaggagcg ctccctggcc ccaacacatc 3480
ggggctccga ggcagtgacc agaacgtggg ctcaagggtg tgggggctat gggggctgca 3540
gggggtagcc ctgccgact ttgtcacggg agcccagggt accgcctcc ttttcgtaac 3600
actgttcccc ccggtcagcc catctagccc tgtcctccat tcctcacgcc atctccatcc 3660
ccatcttgag tcctggaacg gccctgggtg cctgcccctc actgtccaac tctgggagca 3720
gcccggcagg ttggggcgtc ttccagaacc tctcccttct ggagccactc tgcactgcgg 3780
gctaaacatg tttccagtgt gattccttcc agtgagccaa acccggtggc tgcttcatga 3840
gcctgactgc ctctgcctg ctctcagcag gaagggaccc ctggagcagg ctggcccggg 3900
gtggtgaagt agctggagcc cgatcacagt cccgcgggtt gtcagggggc ccaccttcta 3960
gatgaccct taataaagt atggcccccc ag 3992

<210> 488

<211> 1173

<212> DNA

<213> Homo sapiens

<400> 488

```

aatccctacc tccattggag ctgctatgaa gactcttggg cacacgggaa acactcagtg    60
gggttaattt ttcttctcct tttcccttag atatggggca gagatgaagg agttaagctt   120
ctccaggtca cttaagatag ctgagatttg gggaatgggg acagtgggtga tattcagaat   180
atttaaccac ctgtacaggt tgggcaccaa ccagtcagaa tgacacctgg cccaaatcat   240
caccagggga ggaggggcaca gctgagcaga acttctccct atatctttct gccccatcat   300
gagtccattt atcagcaagc atacagacat cccttgaggg cagctcctga ggaggttgca   360
ggatgcggga tcctgagatc ttgtcattca agcaagtcag gcctagcatg gggcaccttg   420
cctgacctgg aagaggaccc ggaagcagag ggcagtgagc tgagggcctt cccagctcct   480
gccccaaagt ggcagcagac ctgccaccag gctctgggga agagctgctt ctgtgggctt   540
tcgccatcct cacgtccctt agagctgccc cctccttctt gtcccttctt ctcaaaggca   600
ccatgggtca ggattagagg gtctgtttgt tctctgatct aactcctcgt gcctgtttct   660
tcatcagcct ggggaagttc atggtttctg ttatctgact gtggagtatg ggagtgtggt   720
gttggggttg tgtggagcca tgttctatca tcatggaaag attctggcct caaggcaggc   780
agcgtcttcc cccagcccca ggctttctga ggccacacct ggacacgtgg tgcacttagc   840
caacactgac ttattttacc tggcctatct ctttgccttg ttgggtgaaa ttaatgcctt   900
tgagggccta aggtggtctg gttaagtgaac aagggcatag gaagacacaa ccttacctag   960
ctggaagtca gagatttgga ctctagccca ctttcccact gagtgggtctt gggcaagcca  1020
cctcctttac tggatccaga aaagtagcat tgagccaggt gtagtggctc acacctgtaa  1080
tcccagtaac tggggaggct gaagtaggag gctctcttga ggccaagagt ttgagaacag  1140
cctgagtttg agaacagtga gaccctattc ttc                                1173

```

<210> 489

<211> 3721

<212> DNA

<213> Homo sapiens

<400> 489

```
ttcaagcaag tcaccaggt caagcctgtt ctagaagaaa caactatagc aaaagcccta 60
aggttggagt gtggctgcca gagctcacac atggtgagga tgtccagacc attattcctc 120
gattgggcct ggagaccct ctgcagcccc tccaatctc tcccactgac ctacggacca 180
gaaggctgga ttttgcaatg gaagggaact tgcaggcagc agacagctct gcaactgtccc 240
tttgattttc ctcaggcacc tctgagaggg agacacactc tcagccaagt acccaacaag 300
ggacatgaga aggcttctgc tgtgcagctg ccagagaaac aggggacaga tcaaagcagg 360
agaggaccaa catctgcggt aaccaaagca aggacaagtt accctgagtc agaaaccttc 420
atttgttatt tgtgcagtta cttttggaac tcaagtaaag gagtttacat gtcaggttcc 480
acctgaattc cttccatgct ttccagcgac tgaaccattt ggggtggcctg gaagagcctg 540
tgagctccct ggagaaagga gacagtgtgg atggagaaga atctggagta gagaggagtc 600
tggggaccct gcctttcaag tcgttttgtt gagggtgcg ttggtggccc aactagccag 660
ggaagggtta tggatatcgg ggtcaggcgg gaataggcag gaaatgtttg tgataagagg 720
cttcgcctct tgcaagctcc tctggtttcc agaccagct gcaggataag ggcccaggag 780
ctgagcaggg agcctcagag gaggtgtctg caagagccag ctcttgggat ttcagcaggc 840
agagttgcaa tcagaggccc ctgggggtccc tgaagaccat gcctggggat agaaacgacc 900
ctggcaacc agccagggt gccttccttt gggatcaggg attttcaatc atacttcaga 960
gggccaatc aatcccttaa gaaaaataaa acaaaacaaa cccagcttt gttaatccaa 1020
gttgctgaga ggggtgggaag tacagacttg acccccagg ggatttcatt cgctggattg 1080
gtcccagttg gagccattca ttaatgttaa ccagtagaaa tggaaaatgg aagggtgcac 1140
tgacaaaaga ccaggctgga agctctgaga aggaatctat cccaaaggga tcatctgctg 1200
gggataaata gagtcacga acagtgtgtc atgcaggcat ttgcaaagct tgggtgctct 1260
tagatttcca gtgtcgctc tttgcccag gccagtgac tccaccatct gtggttgact 1320
tggccagctc acaaaggagc aagatgtgct tcacaggaac acccatgag cggggatgag 1380
```

gctacaggcc acttgcattt gtaccagctc cccttcttaa ggattagcag cttctatcta 1440
tccctggagg ctgcactgta aatgcctgtg taatgctaatt ttgtggtcgg caggagattg 1500
attgggaagg agcaggacaa tggcaagagg aggctgagct ccctcctcct cctgggtgtaa 1560
tggtgtgctt gcatgctgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgta cgtgtgtgta 1620
cgtgtgtgtc ttctgggaga aatgtagcaa caagcccaca gaagagatga ttattcaaag 1680
agaggaagaa gatttactca ccgatgccca gaatctgaaa ggcatgtctg gagtggagag 1740
atgggagtct atgaagcaca aatccaggga gatTTTTtga tgggaataag tgacaaccca 1800
tcactcttaa catattctat tcattagaac caagtcccta agtccagccc acgcttagag 1860
gaagggatta catgggaggc aagaatcact gagagccatt tcggaaactg cctacactta 1920
gaaaaaact tcaagagctc ccggccaagg gcctggcaca tagcaagtgc tcaaggaatt 1980
gttacttggg ccagtgactc ttctaggatg tgagctaggt tttcccatag tggcctgggt 2040
ctctgctgtc ccattcttat tctgttggc actgctgggt tttcagcaa ggctttttcc 2100
tctgacactg ggaggtttgt gactaggctc tctgggtgtg ggccagcaga caggatagac 2160
gctaacttac actcttgcgt tcttccgaac agcctcttca tgaccatgtg tggctttact 2220
ttgtggtcag tgtacagata ttttaatttc ctgctcacct gctcagagga ggatctgatt 2280
tcttcttgca tttatttttc tctccggcag cctgtggaca ggtatttctg tctgaccatc 2340
tggtagccat tcacctttat ggtggcttga gaaaggaatc aatttcactt gtttctttag 2400
taatatctgc ctcttttgac agcaagttac ctttatcacc tcttaaaatt cttactatgt 2460
tgcaccttct gttaccttgg gggctctttc aatcccctaa ctttgtgcaa ctgcatctcc 2520
ctctttgggt tagcttctca ggcctttctt ttgtgaccac ggtttaatac attccatata 2580
tacttctaag tctgctggta cctctcccca cccactgcct gctgagagtg acggattctt 2640
cctggctgga ccaagtctaa agtaatcaga aaacaactga aagaggaaag ctgaccctg 2700
ccctcatcct gccctctgc agacttcttg aggccttttg tctaattgtg gtgggtaatg 2760
tgggcagggt aaaaaatggg gaagatagag caaatTTtct gggcaagaat gaggggagag 2820
gtgagtggag cgtcttcatc tcgctctgggt ttgtatcat ggggtgtctcc agggcctact 2880
gtctcctctg agactcctag aaagttagga gccatggatt ggtatcctac taacagatgg 2940
aacatcagag gccctgtgta aggagtataa taagctcagc tcgccatgct ctgttttgtt 3000
tttgttggaa gaagtgttga aaaaaggagt gggtatacac tggcctatct agctatagaa 3060
tacaacact tagggtgagc agcagggaat ggcttttctg aaaatgatgc tgcattggaat 3120

ggatgattaa ttccctggtt aaaatgaagc cagactgtct ttcagagtct taagcctcct 3180
 cccaataccc tccacatact agtttctaata tggttaatga atatggtcac tatttctagg 3240
 gcctgttgct ccagtgtagt ggtcaagagt gtacactcct atttacaata gcaaagacat 3300
 ggaaccaacc caaatgcccc tcaatgatag actggatgaa gaaaatattg tacatatata 3360
 ccatggaata ctatgcagcc ctaagaagga atgagatcgt gtcctttgca gggacatgga 3420
 tgaagctgga agccatcatc ctcagcaaac taacacagga acagaaaacc aaataccaca 3480
 cgttctcact cataagtggg agctgaacag tgagaacaca tggacacagg gaggggaaca 3540
 tcacacacca aggcctgtct ggtgtgggga ggggaggag agcatcagga caaatagcta 3600
 atgcatgtgg ggcttaacc tagatgacgg gttgatagg gcagcaatcc actatggcac 3660
 acatatacct atgtaacaaa ccataccttc tgcacatgta tcccagaact taaagtaaaa 3720
 t 3721

<210> 490

<211> 4154

<212> DNA

<213> Homo sapiens

<400> 490

cttccttctc cctgtgctca tcgggcagcc gcttgcactg ggcatgggac tgtcctgggg 60
 gtgcaaaggg agaccagact cggtcacagg agtcccaccc tttccacaa cacatgcctg 120
 agagatacat ccagttccag ccacagggt gtatgggaac caggacggg atggaggtag 180
 caatgcagtt tgaaaaagcc cttggaaagc cttttaaaat gttaaagtgt tttgagcaga 240
 tattgcttac acagaactca gaaggtacaa atgggaatac aatgtcccct cccacccgt 300
 ccccagccac tggattccct cccagaggca accatittgc caatttcaca agtgtccttc 360
 cagagacatt ctccgcatac acgagtaatt ttgtatacgt attctttttt gtttttacct 420
 gaatgttgca tggtatacac actgtctaca ccttgctttt ttcatataat catctatctt 480
 agagatgggt ccatatcagt acataaagag catcttcatt ctttttgcac ttgcataata 540
 tcacaaaatg taccataact tatttaaacc agtctttatt ctcagtcttt agttattaca 600

aatgctgctg caatgaataa tctttgaagg gtgatatttg gcagaggcac aaatatatct 660
atcctgggttc aggtgattct cctgcctcag cctcctgagt agctgcgatt gcaggaatgc 720
accaccatgc tgggctaatt tttgtatfff tggcagttaa gtcagagccc ggaacccagg 780
gctttggagc ccaggctccg gagcacaggc tctgcagccc aggctctgct ttgcccactg 840
ccaggatatct ggcgtgaaac aaagttaacg gggaaagaat cactttcctt cacctgtagc 900
tcccaccccc gcctggcaag ctttggtttag ccccaccctt ggcttcctgg cctcaagtca 960
ctgagctaata gcgggggctct gctgtctcct tccggaagct gcagctaggt caatgcctag 1020
cttaaaagac tcacgagttc ttccacgggtg ctgctctggc agggcgaggg gctgcctggc 1080
atctcagatc ccacaggcca gacctttggg tggcactcaa ggctgggggtg gggttggtcag 1140
gctccctgat gatctgatct gagcagggaag agccctcagc ttgctaagcc cccacacaga 1200
gagccccacct gggaagtcct gggattggga ggagggtctc tcctggactg ggggaaggag 1260
gtgggggttcc aggttaggag acttagttgg gccagaggag atggccttgg ccttggctgg 1320
tgggggtggga gtgggcaaga ccgttcaggg atgtgaggag cccgtagcct ggcacacagt 1380
agaggagggtg ggaggaaagg aaacagggtc ggtgctcaga ggagcgggtc agtgctgtca 1440
gtgactcagg accacacgcc attgcagaga gggatgggtg ccaggaggca cagctaagcc 1500
atgaggtcag gctgcaggcc gactgtctg tcccagcttc acgccctgca ctcaaccctc 1560
ctgagggtca gcgcgggggtc ttctgtgttc acctgtctct cctgtcttat tgcaagcccc 1620
ttcttttcag ttggctgatg gggacactcg gcagcccca ttttccccag cacccttcaa 1680
aggcctaagg gcagtaggtt agccaccctc agcctgccct gcaacacca accctgccag 1740
gacaggggtc tctacctctg tccaccagca gggttaggac aaggaagagg atcgggagcc 1800
cggctctcctc agccccctct ttgcattgca gtgggaatag cacggacctt agggtttggg 1860
tttcaacggg aacctgctgc atgacctga ggaggcaact taacctcacc aagtcccaa 1920
aaatggtggc caggaattca gatctctgcc ttctggggat ggaagggtgg tgttggcctg 1980
tcttggccta tgggagacgt tccattcacc tgccgcccc tgtctctcat ctcccctgtg 2040
aggtcagggg aggttgtagt gtacacctgg gggagtgacc cgcaccacc cccagcccat 2100
ccgtgcctgg ctctgccatc tctttcctct gcagcccctg ctggcctggg gcctagcact 2160
ctgggtaatc gattagttta attagtgaag atgccattcc cttctgccag cccccagcct 2220
cgccagacc ctcccagaac tgcaggggaa agtatccaat taattgagtg gtaggtttct 2280
cagctctggg cctgggctaa gccctaatta agctccagcg ccctggggta tcgcagataa 2340

tggattcgca gaagtctgcc tgtgaaatgg gacttgcgag ggcacctcaa ggccaggcac 2400
cccaggagat ctgcccgcag ccagcaccac caggggacag gcccctaact gttgcatgca 2460
tggctggccg ggggatggca ctgagcccc agcaccaccc ctacacctgc tgcctgtatc 2520
agcaccctct cctccccca ccacctcccg ctactactgt tcaactccctt cccaccgtc 2580
cagccttccc ccaccaccc aacacttgca cacactctat ccccttccc cagttctgc 2640
tgcgcacagg agcctgggcc tcaggcacag cctgggagag cacaccgtgg tgggacatga 2700
aacggattct gggggctctgg tttgtggacc aaggttact gctcaccgtg tggggagagg 2760
tgagtggtag ttggaccagg gcttctgaac tgcagaggtag ctttttcta aaaccaagct 2820
ccgattccat gggcctggcg tagggcatac attccacttt cctcaagatc tctgcgtgct 2880
cctctgcgtg ctgttgctgg gccaggggcc accctttgag gatcgagggg ctggagttag 2940
tgcccaactgc agggtaagag gagtagctct ggaagcctcg gtggagagga cgtgccagaa 3000
tggagtgggc accagtgggg agcttggag ggaggtctca ttgccacaa cccagagagg 3060
catcaggacg gatctggcac tgcagcgcct gggacgaggt ggtgtcctgc agagagtcca 3120
gtcagagtca gccgggcaca aattgcttat tcaattcaga tcaactgaggg tacagcggag 3180
tggcctctgc caagtacat gctgtgccac cctccttagg gcgggggtgcc tgctggctctt 3240
aggtctccag actggatgga gatggagtgc tggtcagggc ccgaggggta gctgtgcca 3300
tttgtccttc ggacatcca gctgctttgc tgttatcgtg gccatcggtc ggggtgtcac 3360
tggctgtccc tgggggtgct gctgactctc ctctccaggt atcaactggc acctctcagg 3420
gtgttcctgg gtgcctctta aggccttgct gtctctctaa ataatgctgg ccagaactct 3480
ggttgttatt ggaaatgtca cagtgtcact ggcttctgtc tgggtgtcgc aggatgtatt 3540
tgtctcaggg tatcagcagc catccctcag gctgtctctc cagctgtctt ctcaggttgc 3600
atgatgctga tgtggccgat gagagacagg gcttgaacct ggcccaggcc cgactgctca 3660
gggaggcaca ctgagacttt gtccccggg aatggtttgg cctgattctc cctcaggctc 3720
ttggaggaaa gccctcttgg gcgctattgt ccagcagga ggtccccga ggctcctggg 3780
cccaaagtgg cgtgagacca cccagagag tgcctctgct ttcaattcct gcttgtcccc 3840
caagaaatgt cgcagggggc cggacacggt ggctcacgcc tgtaatcca gcactttggg 3900
aggccgagac aggtggattg cctgagctca ggagttcgag accagcctgg gcaacatggc 3960
aaaaccccat ctctacaaa aaatacaaaa tattagctgg gcatggtggt gcatgcctgt 4020
gatcccagct actcgggagg ctgaggcagg agaactcatt gaaccagga agcagaggct 4080

gcagtgagct gagatcctgc cactgcacca ctccagactg ggcgacagag tgagactcca 4140
tccctcccc accc 4154

<210> 491

<211> 4231

<212> DNA

<213> Homo sapiens

<400> 491

tacggttatt gcttcagcgg aatctgctct ttacactctt gccagaaggc ctttcagcat 60
ctgctccgcg tctggggaca cggcaggggc tgccaggctg ctgcggctcc ctactgatga 120
cagggccttc agagatggcg gcggctgctc ccacaaccgc cagctcccat tccctccac 180
gcctctcctg ttctccacac aaagcccaag ctggaaaggg ttagtcacg caggctgcat 240
gcatgtgtgc ctgggggccc agctaccgga gcttggggcc cagcttggcc actctgtgtg 300
actgtgtggc ccgggggtgag tcacaaaacc tctctgggtg tccattttca tgcccagagg 360
atggacgac atgatggtga ctgttgagc ttggagaact cagtgagtta ctgcatgcag 420
agcccttggc gcaccgcctg gcctgggggt gggaagtggc tatttttctt gggctgctct 480
gctgctgata caccggcgt ggccagcccc tcacacaagg gaacaggctc ctgtgggagg 540
tggtgcccc cccctccac atcatctcag ctaacagttt gtgacaagcc atagatggga 600
tgatgcatcc tgattttgga gataataaag tgaaaaagt ggacaccttt tccagagcga 660
gactgcatca gataactcca cgccgttact gtcttcagca gaccaggctg gttttgcaag 720
tttctttcta tgaagccctt gttccctctg cagtggggag tggtgggctc cctggcctaa 780
cagccagggt ctcatttgaa tccttgcagg tagccccaga ggcgctgtga cgctgctgca 840
ccaacaccta gcttaagtgg gtggttttga gtggttgact gcaggcccgg ggctggaggg 900
gcgttggagc gaggggaagc ttagataacc ctctctgaca cagtccctgc tgctctggga 960
cccgccactg tgcacgtctc gggcagggag ggtctgggca gccacgctg ccatcaccac 1020
cattgcagtg ctctttgtag cactgggtg tcagtgtgcc ctgagaagtc aacgcggctt 1080
ttaggagctc tggtgaattg accctttctg aaataatttt catatgaagt gggtacattt 1140

acctttcagc tttacttccg tctcttcagg ttaaactctaa aaaacacgtt tcagagatta 1200
atttcaaaat atggttttatt ccgggaggaa gcagcatcct aagcacgtga catttaaaga 1260
ccaggctata aggaagtgcc tctgccccca ggccagggtgg cagctgttca gatgtttatt 1320
atggacagtg agctctgaac ggggtcagcc tggcaccctg agtgtggaag acattttcgc 1380
tcagtgtgag gccttgtttg aggttgggtca tcaatattgg aatttcgtga agttggagtg 1440
aggttgccag atttaattctt cattttctaaa atttggttagc tggcaggatg gggatatcgtg 1500
tgtgtagaaa ttatccacag gtttccccca taactgaggc aggcacactg taaataggac 1560
ttcagacatt cacaagaag gaaacagttt tgagatgttt gcttactgtt atgtcgcaag 1620
tgatttgtgg caccactgtc tctgggatct aacagcattc tgtcagtttg tgtcttagga 1680
gtccggtctc tggagacaca gggctgaatc aggcaggctc gcttgggaga gcagctcaca 1740
gttagcagca ggaagacaag aaagtggatc atcttggttg ttggggagggtg tgctgagagg 1800
gccccctgga gcaggctcct gagctgaatc ttcctagagg acagacagcc aggtgcttgc 1860
agaagacacg cagggacagt ggtcctggct aacaaaggca ggagcaaagc tgtgcagggtg 1920
tgcgctgtcg gcgggcaccg ggcagaaccg cgtcctacag gaacagaagg gggagtgggg 1980
aggtccaggc cctgagctcc cagcctttg ccttcagcc ccgctgacct ttttcccctt 2040
gggtatatgc cagggtcttt gagctcagga cttcatctgc cttgttcacc gctgaggtcc 2100
ccatgactac aactgcacct ggtgttggaa gtgagagcca ggtggagagg ctctggcgt 2160
gtgggtgggag gtggggtgca aggcgccaag ggtgctgttg gcatgacctt cctaaagcac 2220
cccatgctgg gtgcttctg gcctccagcc tcagagtcca agttcgtcag aagcctttga 2280
acgtcagact ccaagaccct gtgccggcag tggcagtgtt gggtgagaag aaggtgggag 2340
atgaccagga gccctgcacc aagacagcgg ccgtgaggga gggagagagc gtggggtgca 2400
cagcagaagg tggatgtttg gggctgtctg gaggatgcc aaggctggctt gccctgggtc 2460
tggtggaact tcgcagcgt gctttgaatg tttgcagtgg gtattttgtt ctgtgacatg 2520
tttatgtggt ctctgagcat aaacctatgc ttgtgaagtt gtttaactctg tttgtttgta 2580
cttagagtga caggccttta ttagaatgct tgcttgtttt ctgaattaca tatgccaaga 2640
gcttgacttc ctttttagct cctagcttat gttcaggcat ttttctaagt agcgaatgta 2700
ggtatagact agtttgaagg agctgagagt gtacaatcta aaaacagatc tgaacacaac 2760
taaattgtac aaatgcagcc cgggttttga tgtggattct ggtgttttaa ggccatggat 2820
gtggcttact gtaatcttga aggggctgca gtcctggctt ctggtgagag gactgcagtg 2880

ccggggctgg ttaataagca cccttcatcc tgcaggaggc cggcgcagca tttgtgagta 2940
tctgtgttga atctcttcgt ggatcagata ttgtgtcttc ttgctcagag tcaggttgga 3000
aaaggaaaac ttgccgccgg tgtgcatgtg ctccaaatcc tcagcttggg caagggcacg 3060
ggcgtcgtga ataaaggagc cattcttgct ggccctttct agaaattgcc cacagcttgc 3120
aaaaaggctg tgttccttg ccccggtgc ggctgtgtag gagtctgaat atcattttcc 3180
ccagaagttg aggtccctag gttaggccca ccttgtccca aatgggcagc attggccttg 3240
ccccatgcac aggctccagg cggacagagc tgctgcaggc atgctgtcag ggggacaggc 3300
tgccccccag ctgtgcatgg cagtgtgtcg gaaagaacaa ggccctgtggg tgcccttgag 3360
ccgggtctgg agtctgtcc tgccacttct cagccgtgtg actggagcct ctttgctcct 3420
ctctgaaaat gggctctggtg gtttgttccc aggttcttaa cactgtgtg gagtcacacc 3480
tgcagaaggt cagtcataa cagatatggc aaccaatgtg acctttgcat ccttccttcc 3540
tggggtcagg agcaggctca agagggtggtc aggctaaacc cctgtagggc tgtgggtact 3600
gctggtttcc taagccccgg gaccttctgg gggccgggcg gaccttaagt tctgtccacc 3660
tgctctcct ccctctcac taccacctt gtccttccgg ctcttccct ccctgtccg 3720
cctctcatcg gccctctgtc ctctccgtcc ggagagggga acgtgaagga ggtgaggagg 3780
gagtagtgca ggaggatttg ggtctctcct tctttccctt ttccattctc cgagggtta 3840
accagctggt gaaggttctt aaccagcaaa ggaggaagca gccggggccg gtgagggtga 3900
ggccggcagc caggcaggaa ggcagcagga ggaggaggaa gcggaggcgg caccttctga 3960
gaggcgcagc ctcaagtgt cgtgaagatg gcagggtctg cggagcggcc gccgcatctg 4020
atctctcccc ttttttagg atatgtgatg gcgtccagtt tggagctggg ataaggttcc 4080
tgtagccgac accctacag gagaagctct gggactgggg cagcagcaag gcgcccagtc 4140
cacacaccgt ctctcgagga aacgcggttc agcgattctt tgactgcgga ccctgtggga 4200
aaccctgtca ataatgtta aagacacact c 4231

<210> 492

<211> 3951

<212> DNA

<213> Homo sapiens

<400> 492

tacgagcccg	cgctcagact	ccccagctcc	gccgagagga	cgctcgcgct	gggtccttct	60
tcttcccaa	gtgcaggcag	agcccccgga	gtcatggcca	gcccttccgg	cagctccgaa	120
gccactggca	agccctgagg	tagggatggc	tggcccagga	gggaggagga	cgacgtccct	180
cccgaagaga	agaggctgcg	gctgttgctg	gaggggggaa	gcgcacagcc	cgaggacggg	240
gaggacgcgc	cgcgggccggg	cagggaggag	accggcaccc	agacaggtgg	cgacggcaaa	300
ggagcggaat	tctccacgag	ttttgagcag	cctcggtttt	cccacccct	ccaaatcatg	360
gaagacacac	ggtaagagca	aagacaaggt	ggctgtggcc	tatgtctacc	ctctcggggc	420
gtcccttgtc	ttctctctc	cttgggcagg	gagaccatcg	gagtgcaacc	tggctggggc	480
ggggaggagg	tgcagggcct	ggccagagcg	ggcctggcca	cgggcaaggg	acagcgacct	540
cctgggccag	gacaggtgag	cgcggcgcag	gcccggggcc	ggcgtgtccg	cgctgcgcgg	600
gagaggccag	cagagggcgc	cagagagcca	ggagcggccc	gcggaggagc	ccgcgcccgc	660
cccgatgcc	agctccgcgc	ctcgcggacc	cagcaagctc	gcgctcagac	gccccagctc	720
cgccgagagg	acgctcgcgc	cgggtgcttc	tttttcccca	agtgcaggca	gagcccctgg	780
agccatggcc	agcccttccg	gcagctccga	agccactggc	aagccccgag	gcagggatgg	840
ccggcccagg	agggaggagg	acgacgtccc	tcctgaagag	aagaggctgc	ggctgttgct	900
ggagggggga	agcgcacagc	ccgaggactg	cgaggacggg	gaggacgcgc	tgcggccggg	960
caaggaggac	accggcaccc	agacaggtgg	cgacggcaga	ggagcggaat	tctccacgag	1020
ttttgagcag	cctcgggttt	cccaccacct	ccaaatcatg	gaagacacag	ggcagagccc	1080
gcggagccat	ggccagccct	tccagcagct	ccgaagccac	tggcaagccc	cgaggcaggg	1140
atggcagtcc	caggatgggg	gaggaggacg	tcctcccga	agagaagagg	ctggggctgt	1200
agctggaggg	gggaagcgca	cagcccaggg	actgcgagga	cggggaggac	ccgccctac	1260
cgggcaggaa	ggagaccggc	acccagacag	gtggcgacgg	caaaggagcg	gaattctcca	1320
cgagttttga	gcagcctcgg	gtttcccacc	acctccaaat	catggaagac	acacggtgca	1380
ggcagagccc	cccagccgtg	gccagccctt	ccggcagctc	cgaagccact	ggcaagcccc	1440
gaggcaggga	tggccggccc	aggagggagg	aggacgacgt	ccctcccga	gagaagaggc	1500
tgcggctgta	gctggagggg	ggaagcgag	aacccgagga	ctgcgaggac	ggggaggacg	1560
cgccgcggcc	aggcaggggag	gagaccggca	cccagacagg	tggcgaaggc	agaggagtct	1620

gttcttcccc tggattgtaa actccttgat gtctgggtca tctcagctca tgagctgagc 1680
tttcagtggg tgctcagtgg aacaggtgct gaatggagtc cggctctagg gaggccaggg 1740
tgtgttgga ggaataaca tgtacagcca acttccttga gggttcgttc ttttgcata 1800
gggtgtctca aactgatgcc cttaaaacac ctgtaagaga atcatccagg cggcttgctt 1860
gctctgcatg caggcccttt agaatcagac tcagaatccc tggggctgga gccacaaaat 1920
gaaatgacat ttcaacgagt ttgtcattat gtgagagaga ataggcacag agaagttgcc 1980
catgactctg tgatccgttt tgtccaatga accatgagca gcagcaactt gagtcacctc 2040
caggtggaag tgtaagagg ttgctctatg atccaccaca ttccctttgc cctgaagtgg 2100
agatcaagga cacatgcaga gatggggctt ttgtcagcct ggatccctga gtgaacacaa 2160
tgaacagacc accccagaat gccctaacac agcccagaca tgcaacgtga ccaagaataa 2220
gcctcactgt ggccaggcat ggtggctcat gcctgtcatc ccagcacttt gggaggccaa 2280
ggtgggtgga tcatttgagg tcaggagttc aagaccaacc tggctaacag ggtgaaatcc 2340
tgtctctact aagtacaaag attagccaga cagtgggtggc atgggcctgt aatcccagct 2400
actcaggagg caggagaatc acttgagtct gggaggcaga ggttgagctg agctgagatt 2460
gcaccactgc actctagtct gggtgacaga gtgagaccct gtctcaaaaa caaacaacaa 2520
aatacctcac tgcattgagg cactgagatt tggggtttgt tggtactgca ccagaaccca 2580
aatcatcctg accgctaggg tgccttaact agggtttctt accaaaagca aaggcatttt 2640
taaagttcgt gacatttaaa caaaagagca aataccaata tctaccactt tgtcaggcta 2700
aaaaacccaa acaaagccaa cagccagaag ttaaaataaa cagatcatta ggttgaaaat 2760
agaactgtca aaacaggcac aattgacttc atttagtgat tgcaaagaac atcaggcaag 2820
acacaggtat gctcatcata acatttatca catgcttcat tgcacatgtt tgactaagaa 2880
aaacaaagta ttaagctca tctgtagctc aaagtgccta tccgtgtatt tatctattca 2940
tcctgattta ttattgagc aactcttttg tgccaggcac tgtgctgtgt tgcgggaagt 3000
cagggacccc aaatggaggg accagctgaa gccatgacag aagaacgtgg attatgaaga 3060
ttttatggac atttattagt tcccaaatt aatactttt taatttctta tgcctgtctt 3120
tactgcaatc tctaaacata aattgtgaag atttcatgga cacttatcac ttcccaatc 3180
aatacccttg tgatttccta tgcctatcat tactttaatc tcttaatcct gtcagtcgag 3240
aaggatgtat atcgtctcag gacctgtaat aattgcgtta agtacataaa ttgtacatca 3300
tgtgtgtttg agcaatatga aatgtgggca ccctgaaaaa agaacaggat aacagcaatt 3360

gttcagggaa ttagagagat aaccttaaac tctgaccgct ggtgagccag gcagaacaga 3420
 accatatttc tcttctttca aaagcaaagt ggagaaatat cgctgaattc cttttctcag 3480
 catggaacgt ccctgagaaa gagaatgcgc acctaggggt aggtctctga actggcccc 3540
 cggggcgtag ctgtctctta tggtcgagat tgcagaggtg aaataaactc cagtctccca 3600
 tagcactccc aggcttatta ggaagagaaa attcccgctt aataaacttt ggtcagacgg 3660
 gttgatctca aaacctgtc tcctcataag atgttatcaa tgacaatggg gccaaaactt 3720
 cattagcaat ttttaattca cttccgtcct gtgggtctggc cctgtctcca cttgccttgt 3780
 gatattctat taccctgtta agtacttgat gtctgtcacc cacacctatt catatactcc 3840
 ctcccccttt gaaactccct aataaaaact tgctgggttt tgtggcttgt gggacatcac 3900
 ggatcctacc aatgtgtgat gtctcccca gatgccagc tttacaattt c 3951

<210> 493

<211> 4653

<212> DNA

<213> Homo sapiens

<400> 493

cttattaaaa tatgtgcaat atttatggaa gtcaaacagc ttcatatcag tgataaagat 60
 tgttattaaa agataaatac tgtctgttaa ttacatggg cctcaagttc ctcgtttata 120
 aaataagaga gttggacact gattcttaac atctcctcca catttaaaat tctctcttct 180
 cagcccttag attctagaga gaaaaagctg cagttactca gtaagtccat tctctgatgg 240
 aaagaccagt gtgtagtgcc tgtcaattcc ttaggattaa tcaaatgtaa aatcacaagt 300
 ttgtgtagct gtaacctttc ttaaatgtac atgatttatg tacatgcttt tagaagggtcc 360
 tactatattt gtattataat tagtttaagt aatttttatt acatcatgta ttgctttatt 420
 cagtttgaat acattttatt atttatttgc agtatcaacc agaaacacta ccaattgcat 480
 caaattctcc cagtttttcc tggttgtcaa tgcgggtttc aatgcacaat taagtcatag 540
 ccatttggtt cgtaccaaat gtgtcagaat ctaacagcat ccgataggct gtaagttggg 600
 gagttgctaa gaaaatgcaa cgtggtacag gctgtccgcc tcagccctgg aaatctccca 660

gacctcccc agcttcatcc tgtgtagcac gactcaacgt gcaccctgaa tcttctcagg 720
tcttccagggt catgctgtag ctgtcactgc catgcagccc ttttttttac tctggacagc 780
tcatgtactg aagcgatcatg aaagaaaggc tgtgggtctga gcccttctct cccatctcct 840
gtctttgtcc tgtcaagtgc tggagccaga gctcctacag ctgcccttgg tggtttctcc 900
tgttcagcga tgggtggcaca aaggttctgc tattccagggt ctccagcttc ctcccagggtc 960
taccagagc tccagatggg ggtctgaatt aacctctctt ggtggcctgg agatttttag 1020
tcattgacaa gaataccttg taaccaggga accccaaggc ccagtaaagc attctgtata 1080
ccattttctt gaaggtacaa gaagattctg ccgactatgg ggatctttgg gccagtttga 1140
ggattgcttt ccctctgagg ttctttctct ctgtcagcca cactttctca cccaacttca 1200
gacacaccct gccagccttt ccctactca ttactcttc cccttcctc aacttaatcg 1260
tctatcccgt tgcctgctgt ttgactgtgc actgaaggca ggtggatgga gtcagtcctc 1320
agttgccctt gctggccttc ctgggtgctta ccatcagccc aatctttgca cagtccttgt 1380
tgttcttact tctctgcatg cattccttca gaagatcagt catcaacttt ttcttaattc 1440
ctctgtgaca cacaatggga attcaaagga agagatctta aaagtcacaa cagttcttta 1500
tcttaataat cccctcccca ttacacctac tacatgcaga ctacacctac acccttacia 1560
cttgaagctg aaaatttaaa agtaatttcc ctttttgcag cttttcctca ggttaaggct 1620
ttgatctgcc tgagagtaac tctaaaagga gggaagataa atatgggata aaatccacaa 1680
agtgtagctt ctaattcctt tggaagttaa aaaaatttcc acatatctga tgcttctttt 1740
gtcagggtga gaagcacaaa aacatattcc gaagccaact gatagggaat ttggggatta 1800
ttgtcagttt ggagaatttg ctgtgttatt tcttcatttc catggatagc tcatagttgg 1860
ctctttctgg gtgagtaatt atgtgtaata tagatcaaat cttttactaa gggttacagct 1920
acatgttagg ggaggctatg aaaatactat attattataa tttcagtga gtgattgttg 1980
tgagaaataa ctttcatggt aaccctagga aaatgggcac ctgccaccat cctgagaagt 2040
cctcacacaa tgccctttct ctcttacaca cacacacaca cacatacaca cacacacacc 2100
cccgctacta attcatagag ttccttagca ggcatagtca aggatcctct gggtaatgtc 2160
agctgcttag tgataaaaca gagccaaaac tagtgcaccc tgttgaaagt aatgcagaaa 2220
cagtacctgg gtccagatat gctttcctgc ggcgctttcc tctgttacct cgtttcatcc 2280
tcacagcagc atggacggta ggtgggggtcg cttctacaat catttctgat gatagcttgg 2340
gaatagagat aggggcagtg acttgccctga tgtcgcacag ccctccggct gtccctgcttt 2400

cccatatgga gcagtgggtgg tgtgggcacc tgtgatgcag gagactttaa aaatgtcgtg 2460
aggtcacgtg ctgccccctcc tggtagctgt ggaatgcccc tggccagcaa ggggtgcttt 2520
tttatcagag ttggcagctg gcatgtggga accgagcaag tgctgcgtac caagttactt 2580
gttttaagga gaccaagtgc tcagcgccag gtggttttct tttttgtcat agttacttgc 2640
tataactcag cttgacttct gtcatgaatc agtgctctct gggaggatgc aatactctgt 2700
ttgggcatta attggtagca ggttgtctca accaaaaaga caggaaacag caaaagcctc 2760
tctgaaatta agaggaaagt tactctcccc acacccatca gagtctttat tggagccacc 2820
aggtgagctg tgcagcctgg acaggcctgc agctataggc caccttccca gtttaggtcc 2880
tcagcacagg ggagcccaag tcactgggtg ctttctgagg gctgtcactg ggcaggccat 2940
atacaattca gtgtgtgcgt gggcactgca gtgtgtgcat gccgtagggtg ttgatgggtg 3000
ctaggagggg tgtcgtgtgc atgcgcgttg aagaggatct gtattgccgt gacctctgtt 3060
catggatgag tgcattgtaa tttgtttctca ggctgtgctg tgagggccgc cttaacctt 3120
gtcccttcc cttctagagc tgccttaagt tctccagaac ttttcttctg taaaggatat 3180
cttgccctgga agggatatct tgccctgttt ctcaagggtt tgtgagagtt ttgactggat 3240
gtggccctgc atgacctcc ttctcctgta cttcctcttt cttttccaaa tgggaattag 3300
aactgtgggg cagcaacagt ctcagagcca gtgagaggcc agcttagaga atgcttctga 3360
gttagtggga ctctgtgtca caagtaagca aatgaatata tgaaagaaat tatggagata 3420
agttagattc ttggttaatac ttaaattgtct tgctttctac taaccttttg ttactaaagg 3480
taaagggtat aactcaaact ttttgtggac attcttttca aaatttttta agaaccctgt 3540
actataaaag gttgagtaaa aacaggaaag cgtgctataa gttcaaactt gttgtattac 3600
cctaaattag ataaaccaac ctgaattata gtagatttct caatagatga ggaactgaaa 3660
aatactatgt aaaatatctt ccaaaatgct ttttatactt tttttatttg taatttggtc 3720
tatctaaaat gttcgttagc ttaacttaat gggcgttatt ggattcatat gactaacgtt 3780
tcctcagtat tgtaatgctt gaaatatttg aaagaaaaaa tgttgttttt tagttgaaac 3840
tggtatatat aattcagtgc ttggcagggt agtatatttt tatgcatttt tcagagtcag 3900
cagtttcaaa tcttattgtt atcatgttat aaaattttag cccacatttc aggctccgta 3960
aatcatttga gccattattt tttcccaaca aatgggtgaat tttttcttta aatgtggata 4020
tatatgttgt aatttatgat tcctggttat gtatttttgt gggatcctgc agtaaaattg 4080
acttttttgt gtctttggga gatttaaatt gcgctaacag tgttgcgcaa aaatgagttc 4140

atgccattta acatattgta ttttaattat taactgtatt aatttactat gaaatggaca 4200
 tccttttaac taaaatggaa ttgaacattg cagttttcaa atatttttcc ttgttgggtc 4260
 tggaaaagga attctacttt gatctgcata gaaaattttg atacaatttt ttgaaagttc 4320
 ttaggtgaaa catttaccca ttaaaaagga agcagaaata ctgagacatg aaaggcatta 4380
 tcaactaact ctagactcta gaaccattc tagcatatct cacgtgcaat ttttaaaaat 4440
 aagttaataa ttcattcat atcaacaaaa gcctttgaaa catgggtttt cactagatat 4500
 cacctagtgc taagataaaa accaaaacaa tatcagaatt acatttatgc tctaaatttg 4560
 tagttgtcca ttgttgtgct tagtaaattg gtgtcattaa tgctgtattc tcctagctat 4620
 tatggaaact tgtttaata aagatatgga tat 4653

<210> 494

<211> 3815

<212> DNA

<213> Homo sapiens

<400> 494

aaatgggtgc agagattcag gctggccaag gctggcaca ggacattccc agtggcgaga 60
 gcatgagcaa gggtcacgga tgtgccagga ggggaggcgg agagatgcct gggaccaacc 120
 tctatggcag gccgcggccc aagggcaggg gaggggtgga cggagggaag ggacagggtc 180
 tcctccggga ccccaggag gctgggcca aggaccatgg agcctcgag ctgaatggag 240
 cccccaggc ctgccttctg tcctgggaac cagggcctcc ctcgagccag agtcctgagc 300
 gccgcttgcc ccccgccac agtggcccca gcgagcgcg tgcagagggc gcgggtgccg 360
 tgactcagcc gagcaccgag atgtcagcgg acgcgggacc ggactggaca cgaccgagcc 420
 acctccccgg aggccgcagc gccggcagtc tcccaggatc agtcagccaa gagaccgag 480
 attctcaaat cacggcagcc gccagaggtg cccctgaaat cacagctacg ccttagctca 540
 gccccgctg gaactgtgct ctttttatct ctgcccaagg tgagggaact caggggacct 600
 tcctgtcctt gccccgccc tgccccaca acctttggca tcaaccactg tccccacccc 660
 catctcgggg acttgctagt cctggggctg ctgggagggg tacagccaca agagggatgc 720

caagccaggg caatatgacg cccccacagc ccaccccact ggtctccaga gaggcccaga 780
gatgtccagc tgggcaggca gaggacagag aggctcgggc aggcttggcc cagggcagag 840
aaggcccagg tgcaggcacc ctgagcacag atggccccc agccccacc cagctaccca 900
ggcctgggcg ctgcagacag cgagtgcact tccccagagg gccaggtggc tcctcccatg 960
gcagtatcac ccacttcccc cagctcacca ccagctgggc cctggtctcc caggagaatc 1020
ttacacattg aagatgtact gtgctcagct ctttgccgga ggctaaagct cccaattggg 1080
ccatccccacc ccactctgcc acctctgcca tctaggaacc cagatgcccg gagaggaggt 1140
ctgtcctggg gcccttagtg tcttcccaca ggagcccagc gcgtgcctgc aagggcctgg 1200
tcccggaatg aactgtggat ggaggctgct ttgtcctttt ccccgctccag atccatgccc 1260
atagacaccg ctgactatag gctgggcccc gggctccctt ctccagcctg cagcagaggg 1320
gctttccagg ctggaaaggg aaggagtcct tttgtccctg acgcaagcgg gttggggggc 1380
agcaccgcgt ccaggaagag gaagggatcc agcctgaagt ccagactccc cgctccctct 1440
aagccagggc ctggagcctg gaggccaggt tccttcttct acaccagccc acgttgggtg 1500
ccagccaggc tgggatggcc ctgcggggtc accctgagcc ccagccaacc aacaccccac 1560
tctcagccac agtgggaggc cccatcagcc tcttcacca accacgttgc cactctgctg 1620
cacgggacct tgtgtggtcc caggcgtggc cagaccaga cgtcctggag atctcaatgc 1680
agacaccg cggcagttcc tgcaggaagg aggctgtcct gccacgcctg cgggtgacct 1740
ggcctctggt gccagagcct gccatccttc ctgtttgtgc tgccaggctg gcagggtccc 1800
ttgccaccga cctcagccgc agccacagcc tgctccctcc ctgggtggat ttgaaggagc 1860
ctccccacc ctccgcccct agcttgctcc ttgaggacct tgggcagggt ggctgccatg 1920
gggcccatac gtgcgtggga acctgcgagc tggcaaacgg ggctcggggg ttttgcccag 1980
aaatgggtca gaacgaaagc ctctcagagg aaagaaaagg gcatgagtca aagagaaagt 2040
cggggggcag gggctcccc tcatctcacc ccaccaggc ctctgactc cctgggtttg 2100
tgcggacca ggcaggcagc caaccccagc tccgtggtgt gtgagcatcg tgatgatcag 2160
gacacaagct cttccccgct gagccttcac tgtgggcccag cttcccgggtg gatgcccact 2220
gaagaggcct caaccagtg ggccccactc cagaccaaga gcagaccatt ggccagctgc 2280
cccctgcaga cagcggcacc cggggcagca gcaaggtag gggcacccag cccagcccc 2340
aggggcgtct caggagcgg gctgagcctg gctgtcttcc tgagccccac ctgcttcatg 2400
ggttggcttg agcaaggcag tccagatgcg tgtctcgagc gctccctggc ggcatgctgc 2460

aaagctacat ggctccggca acaaggaaga ctgcccttat tctcagtaac aggtggagct 2520
gggggctgga gagcccctcg gacctcgctt tgggaaagct ggggtgggtgc acggagcctg 2580
gcaggtggcc aaggggaccc ccaagtggag ggattggtcg aggggcagca cagggtgggtg 2640
cagtgggtga gctcagcccc tccccccaa ctctcatccc attgagcccc aaggcgtggg 2700
gggatcacgt ctgtccttgt tctcctccag gtggagctgc tgggtggggc tctggtcctc 2760
cagggacca ctctgcaccc caagttttgc cgggacccgc tcctctgtgt tgtgtggctg 2820
taggggaggg ctgcagccag ggactctgaa cccggggccg gccaccag ccaccaggg 2880
tggggaacaa gatcgctcc cagggccaga agctggggat gtccttgctt cctaggatgt 2940
tggctagggg atcacacgcc ccacattctg ggtcaagcat ggtcctgccc cagcatcttg 3000
ctgggttggg ggcatctctg cacagatgag tgccacccca gcgtctccgc cagggtctgg 3060
gcatgtcact cttgggcata tgtgtctcagg aggtcaccag gtgtgggcag ggcaccaagc 3120
agggaggtag ccgaggctgg aagatgcaca tcagtgcccc gctgggcttc ctcaagtggg 3180
aactggtgga gggggcgcta ggctgccggg ccagggtcag caggctcagg ccggctcagg 3240
gctcagagtt gagccagaaa ccaaggtgaa atctgcctct tactgccgc agggcccttg 3300
ggacagggac aggaacagca gaaggtaaag tggaaaggaa ttgagtaatg ggcccccagg 3360
caaggctgag ccaggcccca agcccaggat tggggtctcc agagtccctg ggggccccag 3420
ggcagctcac ccacagcctg gggcctatgg gagcaagggg gtcctgatg ggtgggggca 3480
ggagcttgga caaagttgaa ggccttctgt ctgaattggc cagggaccaa tgaaagccaa 3540
aaagctggtg tgggtggctta tgcctgtaat ccacttttg gaggccaagg cgggtggatc 3600
acctgaggtc aggagttcga gaccagcctg gtcaacatgg tgaaacccca tctccactaa 3660
aaatagctgg gcgtggtggc aggcacctgt atgtaatccc aaatactcg gaggtgagg 3720
caggagaatc acttgaacct gggagatgga ggttgcagag agccaagatc atatcactgc 3780
actccagcct ggctgacaga gtgagaatct gtctc 3815

<210> 495

<211> 3891

<212> DNA

<213> Homo sapiens

<400> 495

ctctacctca ctctgggagt tcttacaggt cttggatttg cactttgtta ctctccagct	60
attgccatgg ttggcaagta cttcagcaga cggaaagccc ttgcttatgg tatcgccatg	120
tcaggaagtg gcattggcac cttcatcctg gctcctgtgg ttcagctcct tattgaacag	180
ttttcctggc ggggagcctt actcattctt gggggccttg tcttgaatct ctgtgtatgt	240
ggtgccttga tgaggccaat tactcttaaa gaggaccaca caactccaga gcagaaccat	300
gtgtgtagaa ctcagaaaga agacattaag cgggtgtctc cctattcatc tttagacaaa	360
gaatgggcac agacttgcct ctgttgctgt ttgcagcaag agtacagttt ttactcatg	420
tcagactttg ttgtgttagc cgtctccgtt ctgtttatgg cttatggctg cagccctctc	480
tttgtgtact tgggtgcctta tgctttgagt gttggagtga gtcacagca agctgctttt	540
cttatgtcca tacttggagt gattgacatt attggcaata tcacatttgg atggctgacc	600
gacagaaggt gtctgaagaa ttaccagtat gtttgctacc tctttgccgt gggaatggat	660
gggctctcct atctctgcct cccaatgctt caaagtctcc ctctgctcgt gcctttctct	720
tgtaccttgg gctactttga tgggtgcctat gtgactttga tcccagtagt gaccacagag	780
atagtgggga ccacctcttt gtcacagcgc cttgggtgtgg tatacttcct tcacgcagtg	840
ccatacttgg tgagcccacc catcgagga cggctggtag ataccaccgg cagctacact	900
gcagcattcc tcctctgtgg attttcaatg atatttagtt ctgtgttgct tggctttgct	960
agacttataa agagaatgag aaaaaccag ttgcagttca ttgccaaaga atctgacct	1020
aagctgcagc tatggaccaa tggatcagtg gcttattctg tggcaagaga attagatcag	1080
aaacatgggg agcctgtggc tacagcagtg cctggctaca gcctcacatg accaaaggcc	1140
ttgagcccca gaatcttcag gtttgagaga ggtggggcca ccagattctt catgtttctg	1200
aaacttttta ttttggcaga aggattgcct tccaaggaaa ttattattat tgttttgtta	1260
acatattaat atttataagg gaaaacagca cataataagg aaagctggac tagcccagag	1320
ccttctcatt tgggatttgt gtcataact gaactcgtat cttttggtca atgggcatag	1380
ctctgtaaga aatgtaagga cacagctgat ataattagct gtaattaggg ataatttcag	1440
agcataacca aagcagatga cactgggcag cagctttgtt ccagtctcag gcccttcag	1500
ttccctcctc agaaagaaaa tggaaacatt aacgtgtagc tttgcttacc ttgttctggt	1560
tagagaaggg aggtcagctt ggggtgtggtg gtgaagagtg aagatgccat actttttcat	1620

ggtggagttt ctcattaggg ttttacttgg gattgttaaa gaatacttga gattcttcaa 1680
aaagtggatga ttaatataga aagaaactct tttttttttt ttctcttagt cttccagcca 1740
gcccttgcct ctgcccgaagg gtagacacca ctatgagaat ccaaataatc atggaatgcc 1800
atggttggaa tagatcttaa agggcatctg gtaagatcca tttgaaattg tccactggaa 1860
accgaaagct cttttcctaa gactgggttc caggctctca catttggtac catcacatat 1920
aatacttact ctaaatttag cagaacacac ttagtcacaa ggacaacctc tcaatcttac 1980
ctgaaatgtc aacaacacca aaacttcccg tctttttacct tcagagaaga agctcttact 2040
tagactgcag acgcattcct gttaggttgg aaaaatgttg gcagtattcc aattgggcag 2100
gaactgaatt cttgaatcag caggctctctg gtgagagttt tctttgcaga tcagacattt 2160
agttttatca ttacccaaaa gaggattgga gggagtcagt tgtctgaaaa atattatcct 2220
agagatattc taaaggtgag attcctttct ccctgtgtta attcttggtc cactatccac 2280
tgctcttcat ctctttatag ataataatta gaaatctact cattggatta taagtttatt 2340
cattctcaaa tactccactt ttctatgggt tgggataatt tctgagtctt cagattgaag 2400
agggaaggca tggagggaag aaaaagtcca gatccccag cttgtttcca accattttaa 2460
gtccaaagaa ttataatcct gaatctcaca gtgtgtcaca cctgtaatag gagtaaatta 2520
tgcaatcaat ttaattacc aggagttaa aatccaaatg tcaaggaact gttttgacct 2580
tgaaggctat ttaatccact gtcccctaca aggcctcaca agtgctgggg gaaaaaaaaa 2640
cagcaatgag gatgatcctg agttaatgtg tatgctccgc aagagagctt gcctatacct 2700
tgattatttc ataaaatcac atgttaatac attgctttca gaatgaaata ctgacttgat 2760
ctgataggag aaaatggtaa tatttcatag ttgttttcca aagacaaatt taaatgttgt 2820
ctgttatctc cttacttagt ttaagaattt agttttgaac cccattgact ttgtcatttg 2880
caattttaaa aatatttggg actgggcatg gtcgctcacg cctgtaatcc cagcactttg 2940
ggaggctgag gcgggtggat catgaggtca ggagatcaag accatcctgg ctaacatcgt 3000
gaaactccgt ctctactaaa aatgcaaaaa attagccagg cgtgggtggcg ggctcctgta 3060
gtcccagcta ctcatgaggc tgaggccgga caatcgcttg aaccaggag gtggagggttg 3120
cagtgagcca aatcatgcc actgcactcc accctgggcg acagagcaag actccatctc 3180
aaaaaaaaa attggaaggt atctgtaaaa tgtcaaagtt aagatgaagt tatactgtt 3240
tggaatagca ctttgccta aatatcattt cttgaatttt caagcctaaa gatgtttaaa 3300
aatatgaata gttacaaata ttcttataca ttttttttat catgatcaca aaaaaatttt 3360

gtttatgtgg ttctgcaata taatttctgt gaagtattac aagtatttat gaaaaataag 3420
catagtgatc agaaatttta aagattttgt ataaaaacat ttgggagatt tgactttata 3480
catgcataga ttgcatTTTT actttccctt ttgaggcagc atttttagaa aatcagtaag 3540
aaaaatgtac atcttaaggt ctactatTTT acatttctac acagaatTTT agtgTTaatg 3600
ttccatgtgt ctatactgtt tatttcaaaa ctgagaaatt catgggaatg atgtattttg 3660
tggaatcaag aacaaaatta tagtgggata attttacatc ttaaataattt ctttctacta 3720
ctgtaagctc tactttggaa ttatctgagt agaaaatcag aagacattat ctaactttgt 3780
agatacactg tatgattggg ctttttgTtc agattgtaat ttcattaata gatgaaatat 3840
ttatgctaatt attttcttat ttcaaaagca aaataaaatg aatttattgt c 3891

<210> 496

<211> 3741

<212> DNA

<213> Homo sapiens

<400> 496

acgggaaatt ggaagaacaa gaacccaatc gaaaattgaa agagttaaag taaaaacaga 60
atcccaagac cccacatctt catggagatc acttattcca gtcataaagg tcaatgtgag 120
cacaggacgt ttggcctttg gaaatcacta ccagccgcaa actctgtgca tcaactttga 180
tgatgctttc ttaacttata ctacaaaacc accttcaagt catcttgacc aattcatgca 240
tattgtgaaa ggaaagcttg aaaatgttcg agtcatgctt gttcctagtc caagatatgt 300
tggtcttcaa aatgatgaac caccgagatt aatgggagaa ggttttgtgg tgatgcagtc 360
aaatgatgtt gacatctact actacatgga tgagccagga cttgttccgg aagaaacaga 420
agaaaatatt gaaggagaaa tgagcagtga ggattgcaaa ttacaagact tgcctccatg 480
ttggggactg gatatagttt gtggtaaagg aacagatttt aattatggac catgggccga 540
taggcagaga gattgtttgt ggaagtTTTT ctttccacct gactatcaag ttctgaaagt 600
ttctgaaatt gcacagcctg ggagaccaag acagatcctt gcttttgaat tacgaatgaa 660
tattattgca gatgctacaa ttgatttgct gtttaccaaa aatagggaaa caaatgctgt 720

acatgtaaat gtaggagctg gctcatattt agaaattaat attccaatga cagttgaaga 780
aaatggttac actcctgcta ttaagggaca actcttacet gtggatgccca ctaccagcat 840
gcaatatcgg acccttttag aagcagaaat gtttagcattc cacatcaatg ccagctaccc 900
ccgaatatgg aacatgccgc agacatggca gtgtgaatta gaggtttata aagccactta 960
ccacttcac tttgcacaga aaaacttctt tacagattta attcaagact ggtctagtga 1020
cagtcctcca gacatttttt catttgttcc atatacgtgg aattttaaaa tcatgtttca 1080
tcagtttgaa atgatttggg ctgctaataca acacaattgg atcgactgtt ctactaaaca 1140
acaggaaaaat gtgtatctgg cagcctgtgg agaaacacta aacattgatt tttctttgcc 1200
ttttacggac tttgttccag ctacatgtaa taccaagttc tctttaagag gagaagatgt 1260
tgatcttcat ttgtttctac cagactgccca ccctagtaaa tattctttat ttatgctggt 1320
aaaaaattgc catccaaata agatgattca tgatactggt attcctgctg agtgtcaaag 1380
tgccagaaaa acagttaaac caaaatggcg caacgttact caggaaaagt ctggttgggt 1440
tgaatgctgg actgtcccaa gtgtcatgct tacaattgat tatacatggc atccaattta 1500
tccacaaaaa gcagatgaac agctgaaaca atcattatca gaaatggaag agacaatgct 1560
atctgtatta aggccatccc agaagacatc agacagagtt gtttcttctc cctctacttc 1620
ttcacgccc cctattgatc cctcagaact tccacctgat aaacttcatg tagaaatgga 1680
actttctcca gattctcaga taactctcta tggacctcta ctaaatgcct ttttgtgtat 1740
aaaggaaaac tactttgggg aagatgacat gtatatggat tttgaagagg ttatctcaag 1800
tcctgttttg tcaactgtcaa catcatccag ctctgggtgg actgctgttg gaatggaaaa 1860
tgacaaaaag gaaaatgaag gttcagccaa gtcaattcat ccacttgcct tgcgtccttg 1920
ggatattact gtacttggtta atttgtacaa agttcatggg cgtcttctg ttcattggaac 1980
tactgatggt cctgaatgcc ctacagcttt cttggaaaga ctatgttttg aaatgaaaaa 2040
aggatttagg gagaccatgc tgcaacctat cctgtcaccc ctgaatgtgt ttgtcagtga 2100
taactatcag cgacccctg tggatgaagt actcaggga ggtcacatca atttgtcagg 2160
tctccagctg agagcacacg ctatgttctc agcagaaggt cttccattgg gaagcgattc 2220
cttagaatac gcatggttta ttgatgtgca ggctggaagt cttacagcta aggtcacagc 2280
accacagctg gcatgcctct tggagtgggg acagacattt gtttttcatg tggtatgtcg 2340
ggagtatgaa ctggaaagac cgaaatcagt tataatatgt cagcatggaa ttgatcgtcg 2400
gttctgtgaa tccaagttga gttgtattcc tgggccttgt ccaacttcag atgatttgaa 2460

atatactatg attcgtttag cagtagatgg agccgatatt tacattgttg agcatgggtg 2520
 tgctacaaat ataaagatgg gtgcaattcg agttgcaaac tgtaatctcc acaatcaatc 2580
 gggtggggaa ggaatcagtg ctgcaattca ggattttcaa gtgagacagt acattgagca 2640
 attaaataat tgcagaattg gacttcagcc tgcagtgcta cggagggcct attggcttga 2700
 agctgggtca gccaathtag gacttattac tgttgatatt gctttagctg ctgaccatca 2760
 ttctaaacat gaggcacaaa gacatttctt agaaactcat gatgccagaa ctaagagggt 2820
 gtggttttta tggccagatg atacctgaa gaataagagg tgtagaaaca aatgtgggtg 2880
 tctcgggtggc tgcagattct ttgggtggcac agtaactggc ctagatttct tcaaacttga 2940
 agagttgaca ccttccagta gctctgcatt ttcaagcaca agtgcagagt ctgatatgta 3000
 ttatggacag tctctgctac agcctggaga atggataatt actaaagaaa ttcccaaat 3060
 tatagatggg aatgtgaatg gcatgaagag gaaagaatgg gaaaacaaat cagtgggaat 3120
 agaagtagag agaaaaactc agcaccttag tcttcaagta ccattacgat ctcatagttc 3180
 atcctcttcc tcagaagaga acagtagttc tagtgctgca cagcctttgt tggctggtga 3240
 aaaggaaagt ccttcatctg ttgctgatga ccatttggtt caaaaagagt tcttgcatgg 3300
 gacaaaaaga gatgatggcc aagcaagtat ccctacagaa atttcaggaa acagccctgt 3360
 gtctcctaata actcaggata agtcagtagg tcaatctcct cttagatctc cttgaaacg 3420
 acaagcctct gtctgttcca cccgtcttgg aagtactaag agtcttactg ctgctttcta 3480
 tggggacaag cagcctgtaa cagttggagt ccagtttagt agtgatgtct ctcgaagtga 3540
 tgagaatgta ctagactcac caaagcagag gagaagtttt ggttcattcc catatacacc 3600
 atcagcagac tctaattcat ttcacagta tcgatcaatg gattccagca tgtcaatggc 3660
 tgatagtga gcctactttt ctgctgctga ggaatttgag cccattagca gtgatgaagg 3720
 ccctggaact tatccgggta g 3741

<210> 497

<211> 4336

<212> DNA

<213> Homo sapiens

<400> 497

gcagtggctt cgtcccgcgg tgacggcggc ggcggcggcg gtagcagcgg cggcggcggc 60
ggggactggc atcggggccc cgagccgagc ggagccggac cccgggcgag cgcgtctgca 120
gccaccccag ctcatacctc tctgcctccc cgctctcaag gaggtctgc cgcattgat 180
gaaagtgtct actctcaggg aaagctcagc catggcttcc cactgcccc gggagatgga 240
ggaggagctg gtgcctactg gctctgagcc aggtgacact cgggccaac cccctgtcaa 300
gccccaaacc cgggccctgc ctgccaagcc agccctgcct gccaaacca gcctgttgt 360
gcctgttggg cctcggcctc cccggggtcc cctggctgag ttgccttctg ccaggaagat 420
gaacatgctg gcaggacccc agccctatgg tggcagcaag cggccccctc cttttgcacc 480
aaggcctgcg gttgaggcct cactggagg agaagccacc caagagactg ggaaagagga 540
ggctgggaaa gaggagccac cccctttgac acccccagct cgatgtgcag cccagggggg 600
tgtacggaag gcccctgccc ctttcgccc agcctcagag cgcttcgcgg ccaccacggt 660
ggaagagatc ctggccaaga tggagcagcc tcggaaggag gtccttgcca gccccgaccg 720
cctgtggggg tcccgctca cttttaacca cgatggcagc tcgcgatatg gccccaggac 780
ctatggcacg accactgctc ccagggatga ggatggcagc accctcttca ggggatggtc 840
ccaggagggg ccagtaaagt ctccagcaga gtgccgggaa gagcacagca agaccctga 900
ggagaggtga agggtgggag gagccttctc tccgacctgg ccttcaacgg ggacctggct 960
aaggcagcca gctcggagct acctgctgat atttccaagc cctggattcc ctcaagtcca 1020
gccccctcct cagagaatgg aggcctgcc agcccaggcc tccccgcaga agcctcaggc 1080
tcaggccctg gctctccca tcttcaccg cctgataaga gttctccctg cactcacag 1140
cttctggaag cccagactcc tgaagcttcc caggcttctc cctgccccgc tgtactcca 1200
tcagctcaa gtgcagccct gcctgacgag ggctcccgcc acacccccag cccggggctc 1260
cctgccgagg gggctccaga ggccccaga cccagcagcc caccctga ggtcttgag 1320
ccccatagcc tggatcagcc ccctgccacc tcaccccgcc ccctgatcga ggtgggtgag 1380
ttgtggatc tactcggac gtttccatct ggcggggagg aggaggccaa gggtagcga 1440
cacctccgcc ccaccagcct ggttcagcgc cgattctctg aaggtgtgct ccagtcacc 1500
agtcaggacc aggagaagct ggggggctcg ctggctgccc tgcccaagg ccaggggagc 1560
cagttggccc tggatcgctc ctttggggca gagtccaact ggagcttatc acagtccttc 1620
gaatggacct tccccagag gccctcgggt ctgggcgtgt ggcggtgga ctcgccct 1680

ccctcccca tcactgaagc cagtgaggcc gccgaggctg ctgaggctgg caacttggcc 1740
gtttccagca gggaagaagg agtgtctcag caggggcaag gggctgggtc agctccaagt 1800
gggtcaggaa gttcctgggt gcagggggat gatccaagca tgtccctcac ccagaagggc 1860
gatggggaga gtcaacctca attcccagct gttccccttg agcccctgcc tacaactgag 1920
ggcacacctg gattaccttt gcagcaggca gaggagagat acgagtcgca ggagcccttg 1980
gctggacagg agtcccctct ccccctggct accagggagg cagccttgcc catcctggag 2040
ccagtcctgg ggcaggagca gccagcagcc cctgaccagc cctgtgttct ctttgctgat 2100
gcccctgagc ctggacaggc actgcctgtt gaggaggagg ccgtgaccct agcccgggct 2160
gagaccaccc aagccaggac agaggctcaa gacttgtgta gggcatcccc cgagcctcca 2220
ggccctgaaa gcagctcccg ctggctggac gacctcctgg cttcaccacc acccagtggg 2280
ggcgggtgcaa ggcggggagc tggagctgag ctgaaggaca cacagtcccc aagtacctgc 2340
tctgagggac tccttggctg gtcccagaaa gatctgcaga gtgaatttgg gatcacagga 2400
gaccacagc ccagcagttt cagtccttcc agctgggtgc aaggtgcttc tcaggactat 2460
ggccttgggg gtgcaagccc tagaggagac ccaggctctg gagagaggga ctggaccagc 2520
aagtatgggc aaggagcagg ggaagggagc accagggagt gggccagcag gtgtggcatc 2580
ggccaggagg agatggaggc cagcagcagc caagaccaga gttaaagtgtc tgccccaggg 2640
gtgctcacag cccaggaccg ggtagttaga aagccagccc agcttggcac tcagcggagc 2700
caggaggcag atgttcagga ctgggagttc agaaagaggg attcccaggg cacttactcc 2760
agccgggatg cagaactcca ggaccaggaa ttcggaaaga gagattcact gggtacctac 2820
agtagtcgag atgtaagcct tggggactgg gaatttggga agagagattc tctgggtgct 2880
tatgccagcc aagatgccaa cgagcagggc caggatttgg ggaagaggga ccaccatgg 2940
aggtacagca gccaggatgc cgatgagcag gactgggagt ttcagaagag agatgtgtca 3000
ctcggcacct atggcagccg ggctgcggag ccacaggaac aggagttagg gaagagcgct 3060
tgataaagg actacagcag tggtggcagc tccaggaccc ttgacgcca ggacagaagc 3120
tttggaacga gaccctgag ctctgggttc agccccgagg aagcccagca acaggatgag 3180
gaatttgaga agaagattcc aagtgtggaa gacagccttg gagagggcag cagggatgct 3240
ggccggccag gagagagagg atccgggggc ttgttcagtc ctagcactgc ccacgtgccg 3300
gatggggcac tcgggcagag agaccagagc agctggcaaa acagtgatgc tagccaggag 3360
gtgggagggc atcaggagag acagcaggca ggggctcagg gccctggcag tgctgacctg 3420

gaagatgggg agatgggaaa gcgaggctgg gtcggtgagt ttagcctcag tggtggcccc 3480
 cagcgagagg cagcatttag cccagggcag caggactgga gccgggactt ctgcatcgag 3540
 gccagtgaga ggagctatca gtttggcatc attggcaacg acagagttag tggtgctggc 3600
 tttagccctt ctagcaagat ggaagggtgg cactttgtgc ctcctgggaa gaccacagct 3660
 ggctcgggtg actggactga ccagctgggt ctcaggaact tggaagtgtc cagctgtgtg 3720
 ggttctgggg gctcgagcga ggccagggag agtgccgtgg gacagatggg ctggtcaggt 3780
 ggccctgagct tgagagacat gaacctgacc ggctgtttgg aaagtggagg gtctgaagag 3840
 ccggggggaa tcggagttgg ggagaaggac tggacttctg atgttaatgt gaagagcaaa 3900
 gatttggctg aggtcgggga gggaggaggc cacagccagg ccagagagag tggcgtgggg 3960
 cagactgact ggtcaggtgt ggaggccgga gagttcctta aatcaaggga gcgtctgggg 4020
 aggcacattt atgcactttg tatcaccctc cgaactcccc ccacaccttc ctttccttg 4080
 atttcatcac tagtggttga aggttttgtc ctttcctctc ctccttcct ctcctctct 4140
 gcttcctcct ccagcctccc ttgggttttc ttttgatacc aatttatagc attttttata 4200
 aaagcctttg atttttataa tgggtgggac tgtatccctg cctcaccca ggtctccgtc 4260
 tgccccgcca ggtacccac agagaccaat gacattttgc cacttgaaac aataaataaa 4320
 gttttttggg aattgg 4336

<210> 498

<211> 4996

<212> DNA

<213> Homo sapiens

<400> 498

agtgctcgcc cgcccgaccc cggcggctcg cgcccgaggag cgccgcaggg tcgctagagt 60
 cggccgcgtc ctttgtgtgg cgctcaggct gcgcgcggg gcggcgggac ggaatgtggg 120
 cgctgcgggg gcttttctct cctacccgaa ctgtgggaac aatggactga aaggggaaga 180
 tggattgagg ggccgagcgg ggaagcgagc tgcaccgggg aatcatgact tctgcagccg 240
 agataaagaa gccaccagtg gcccacaagc ccaagtttgt tgtggcaaat aataagccag 300

ccccacctcc tattgcacct aaacccgaca ttgtgatttc tagtgttcca cagtcgacaa 360
agaaaatgaa accagcaata gccccaaaac caaaagtcct gaagacctca cctgttcgag 420
agattgggca gtcgccatca aggaaaatca tgttgaacct ggaagggcat aaacaggaat 480
tagctgaaag cactgacaac ttttaattgta aatatgaagg caatcagagc aatgattata 540
tttcaccaat gtgttcctgc agttctgagt gtatccataa gctgggccat agagagaatt 600
tgtgtgtaaa gcagcttggt ttagagcccc tggaaatgaa tgaaaattta gaaaacagta 660
aaattgatga gactttgact ataaaaacta ggagtaaatg tgatttgtat ggtgaaaaag 720
ccaagaacca ggggtggggtt gttttaaagg caagcgtttt agaagaggag ctcaaagatg 780
ccttaataca ccaaatgcca ctttttattt ctgcacagaa gcacaggccc acagacagcc 840
cagaaatgaa tgggtggctgt aattcaaagtg gacaattcag aattgaattt gcggatttgt 900
caccttcccc atccagcttt gaaaaagttc ctgatcatca cagttgccac ttacagcttc 960
ctagtgatga atgtgaacat ttgaaactt gccaggatga cagtgaaaaa agcaataatt 1020
gctttcagtc atctgaacta gaggctctgg aaaatgggaa aaggagtact ttaatatctt 1080
cagatggagt tagtaagaaa tcagaagtca aagacctggg tcccttagaa attcatttag 1140
taccatatac cccaaaattt ccaactccca agcccagaaa gacacgaact gctcgtctgt 1200
tacgcaaaaa gtgtgtagat actcctagtg aaagcactga agaaccgggg aattcagaca 1260
gtagctcttc ctgtcttact gaaaatagtt tgaaaatcaa taaaatcagt gttctgcac 1320
agaatgtttt gtgtaagcag gaacagggtgg ataaaatgaa gctaggaaat aaaagtgaat 1380
tgaatatgga atccaacagt gatgcacagg acttagtcaa ttcacagaaa gccatgtgta 1440
atgaaacaac ttcctttgaa aaaatggcac ctctctttga taaagactct aatttgagtt 1500
ctgacagcac aactgtagat ggttctagta tgtcgcttgc tgtggacgaa gggaccgggt 1560
ttataagatg tactgtatct atgagcctgc ctaagcagct caaattaact tgcaatgaac 1620
atttgcaatc tgggagaaac ctgggagttt ctgcccctca aatgcaaaaag gaatctgtta 1680
taaaagagga aaattctcta cgaattgtcc ccaaaaaacc tcaaagacat agcttgccctg 1740
ctacaggagt gcttaaaaaag gctgcctccg aggagctttt ggaaaaaagt tcttatcctt 1800
caagtgaaga aaaaagttca gagaagagtc tagaaagaaa tcaccttcag catttgtgtg 1860
cccaaaaccg tgggtgtgtca tctcctttg atatgcctaa acgggcttca gaaaagccag 1920
tgtggaagtt acctcatcct attttaccct tttcagggaa cccagaattc ttaaagtcctg 1980
tcaccgtatc gtcaaacagt gagccttcaa cagccctaac caagcccaga gcaaaatcgt 2040

tatctgctat ggatgtggaa aagtgcacta agccttgcaa agactctaca aagaaaaact 2100
cttttaaaaa gttgctcagc atgaaactgt ccatctgttt catgaagagt gactttcaaa 2160
aatTTtggtc caagagtagc caactcggag acaccaccac aggccacctc tccagtgggg 2220
agcagaaggg gattgaaagt gattggcaag gcttgttggg aggagaggag aagagaagta 2280
aaccatcaa ggcatattcc acagaaaact atagcctgga atctcaaaag aagaggaaga 2340
agtctcgggg ccagaccagt gcagctaatt gtctgagagc tgagtctttg gatgaccaa 2400
tgctctcccg ggagtcata tctcaggcac cttacaagtc tgttacaagc ctctgtgcac 2460
cggagtatga aaatatacgc cattatgagg aaataccaga gtacgagaac ttgccattta 2520
ttatggctat acggaact caagagttgg aatggcagaa ttccagcagc atggaggacg 2580
ctgatgcaaa tgtgtatgag gtagaagagc catatgaagc tccagatggc cagctgcagc 2640
ttggaccag acatcagcat tccagttcag gagcatccca ggaggaacag aatgatcttg 2700
gtcttggatga ccttccctct gatgaggagg aaatcatcaa cagttctgat gaagatgatg 2760
tcagctctga gtcaagtaaa ggagagcctg acccactgga agataaacag gatgaagata 2820
atggaatgaa aagtaaagtt catcatattg ccaaggagat catgagctca gagaaagtgt 2880
ttgtggatgt gttaaaactt ttgcatattg atttccggga tgcagtagct catgcttcca 2940
ggcaacttgg gaaaccagtg attgaggacc ggattctaaa tcagatccta tactacttgc 3000
ctcagctgta tgagctcaac cgggatctct tgaaggaaact ggaggaaaga atgttgcact 3060
ggactgaaca tcagagaatt gctgatattt ttgtaaagaa gggaccatat ctaaaaatgt 3120
attccacata catcaaagaa ttgataaga atatagcctt gctggatgaa cagtgaaga 3180
aaaatccagg ttttctgct gttgttagag aatttgagat gagccctcgc tgtgctaate 3240
tggccctcaa gcactacctg ctcaagccgg ttccagaggat cccccagtac aggctgttgc 3300
tgacagatta tttgaagaat ctcatagaag atgctggaga ttacagagac actcaagatg 3360
cccttgctgt tgttatagag gtagccaacc acgccaatga caccatgaag caaggagaca 3420
actttcagaa acttatgcaa attcagtaca gcttaaattg acaccatgaa attgtgcagc 3480
ctggtcgggt ttttctcaaa gaaggaattc tgatgaagct gtctcgaaa gtgatgcaac 3540
ctcgaatgtt tttctgttt aatgatgcc tgctgtatac aacaccagtg cagtctggga 3600
tgtataaact gaacaacatg ctctcactgg ctggaatgaa ggtcagaaaa cctaccaag 3660
aagcctatca gaatgaatta aagattgaaa gtgtagaacg ttccttcatt ctctcagcca 3720
gttctgccac agaaagggat gaatggctag aagcgatttc cagggaata gaagagtatg 3780

ccaagaaaag aatcaccttc tgtcctagta ggagtcttga tgaggcagac tcagaaaata 3840
aagaagaagt tagtcctctt ggatcgaagg ctcccatctg gattcctgat accagagcca 3900
caatgtgtat gatctgcaca agcgaattca ctctcacctg gagacgacac cactgccggg 3960
cctgtggaaa gattgtatgc caagcttggt cgtctaataa gtatggctta gattacctga 4020
aaaatcaacc agcaagagta tgtgaacatt gtttccaaga actgcagaaa ttagatcacc 4080
agcactcccc taggattgga tctcctggaa atcacaaatc tccttcaagt gccttatcat 4140
cagtcttaca tagcattcca tcagggagga aacagaaaaa aatcccagct gctctcaaag 4200
aagtatcagc aaacacagag gattcttcta tgagtggcta cttgtacaga tcaaagggca 4260
ataaaaaacc ctggaaacac ttttggtttg tcataaaaaa taaagtacta tatacatatg 4320
ctgcaagtga ggacgtggcc gctttggaga gtcagccttt attaggattc actgttattc 4380
aagttaaaga tgagaattcc gagtctaaag tatttcagtt actgcacaaa aacatgttat 4440
tttatgtatt caaagcagag gatgctcatt cggctcagaa gtggatagaa gcatttcagg 4500
aaggcacaat attgtagcag tattggtttc atctcttctg tgattccaaa gaggtggaat 4560
ttcatcagaa tggagtaaatt gcaattcaaa aattgtataa aaatgaacac tgccaagata 4620
aagccaacca gacccttcat caaagaaatt gttttgtag gtataagcaa tttttaaaag 4680
gtgtttgttt tttcatttat gttatttatt aaaattttga tgtttactta atggtcagaa 4740
ttatttctga gacacactga attctaaagt accatttctt tagagaccag aaaaactatc 4800
ttaatactgt atactgtatt aactattcgt gacatagttc acactgtttt cttaccttac 4860
attgtaacaa tcttactggt ggaaagtctt tgtaaggaaa aaacacatag caaggagcaa 4920
atttccacaa agtgcttggt ttaggaattg tgattattat aaaactgctg atgaaaaaaa 4980
tgcattgtctt tgaatc 4996

<210> 499

<211> 3922

<212> DNA

<213> Homo sapiens

<400> 499

tgtgctgttt tggcttttgg ttgtatgagg caaagaccca ctccagccag cttgggaagg 60
agtttgggtga gtgggaacat gtatagtgtg ataggaatca cacaggaatc cgggaattcg 120
agctgggatg ggctgagctc cagagcctgg tagtggaggg aggttcctgg ctgctctggg 180
ggcctcagcc acagtttttc tctaggattt tgcctgtgg gactgtgcct ggctccatgt 240
gctggagcct tctaccccg caccagccgg ctgctttgct cactcctagt tttccatgtg 300
gcttcagctc gaggacgtgc ttagctgtct gaaagccctc tggccccagt tcaactctgt 360
ggcattttctt gttgcattct ttcagtttct aagtgaccaa ttcctgtcac atttcatagt 420
tcacatcctt gagagaaact tgatctagtt cattccccac cccgaccctt gccctggtcc 480
tgggtttgag gatattggct agcctgtgga ttgtttgcct taggtgggag gcctgaccct 540
tgttcagtga gctgggctgg tggagctggg gaggaggcag tgggggtggt aggcagtggg 600
catcgccagg taaagtagag tggctgcca cggcccgggg tggacacagg gcagagagtt 660
gggcagggtg ggggatgttc tccaaaacac ttgagtgtgg cttaaaaagt tcatgcaacc 720
ctgatagttt gaggcaaagg ctggtttctt tgccaaacgt tagatttaat aaaagaggag 780
gtgtttggat tgtttaacgt tcagacttcc ttatttcctt tacttacta ttttcaaat 840
tgtgacgttt accttgccag ttcatgcagg actttacaga agaactcgaa attcaaattc 900
tgagctgcca ccaagttttt acaattaaac cattttaaaa ctattgttct gaggtagtgg 960
ttaatttccc ttctttttct ttctttcttc tccttttttt tctttttttt atgatttaaa 1020
acttactagt tagaaacttt tttttttgcc tcaccagctt caggaaattt tcttttgaat 1080
tgtagaata acaaacaac aaacacacag acgcacgcac acgcacgtat attcttccac 1140
cctgtagtat aaagaaaaca tttttaaatc cgaaaatgaa atatgttacc tttttccttc 1200
caaaagtaga ctgtgagtga tgtttgtgtg gtgtcctttg ccccatcttc ttactgtagt 1260
tttatggtat aaagtcctca gtatttgctt aatttttttt gtcattgagg aaaactaaca 1320
gtaaaatgag ttaacctgaa aatgcccttt tcagttcagc attcagagtg aggaaagagg 1380
tatatatgca gttaaggtga gaacggaacc gtagcttccg ccggcgggct tgtgagcacg 1440
tcagaaagcg aatgtgcctc actagaacgc acggtggcgg caggagtggc cggcagtgcc 1500
cggcacgcag tcacgggagg tgggtcgagt cctggtttat gtgagtcctg tgaggtgaga 1560
gagtgggaga aaacgcctca ctcaacttaa tgcctttgtt tgtttgtttt aaccaagagt 1620
ttacttgtaa tttagtattg ccggaaaatt gttcaggtaa aaagtccta gtataaatag 1680
gtacacagtc aggtcagata tgtaattgc atctcacttg atttaatgaa aatttaccat 1740

ttgttttgag gtcagtagca ttaaaaaaaaa aaacatgtta aagttctcat taactcgctt 1800
gagtgggtatt tacataagca aaattgaagt ggaggttttt cagtaggcat ttgcatgggtg 1860
ttgttttggt agatatacgc ccagaaacag aatgtcagag ctttcagcga gttggagcaa 1920
tcacctagct caaccctccc ttggagggcg gggaatctga gactccgagg tggtgaaact 1980
tacacaggta gtgccgagat ctgattctcg agtttagtgt tcttttctca tactatgctt 2040
cttccttcta cccagggatg tgtacctgaa acattttatg aaagagaaat caaaacttct 2100
tggccacaca caaacgaaag cctcacacct gacaaggaag gcgcaccagg gaaccttctg 2160
gggggatggt tgcagatgtc ctgtgttttg acaaagggtg gggggactca ttttttaaat 2220
tgagttataa ttacataca atgaagtggg cacatgtcag gtgtacagtt tgatcagttt 2280
taaccaaaagg gctgctcttc ctggcttgcg gggaggagaa attaatacagt gaaggacact 2340
gattgattgt gccttaaagg gtttaagatc tcacgggagc atagtatat gatccacag 2400
attaggaact tagaatggga tgtataattc taggggtgctt gagttgaagt gtttcttttt 2460
gaaatttcta agataaagca caaactttta aagttaaaca ttgtcaagtg catctcccc 2520
tccccctgca tgtaaatggt tccttaataa aggcttcaaa gggaaaatga aggaggcggg 2580
aggccaccta gtgtaggagg gcagggtggg agagggtcaag gtcaggagcc cttaaggaga 2640
gttgtgggag agagggaaga acatgagagg ccaccttctg aacccgattt ttgtgggtgac 2700
agccgcaggc gagatagtgg ctgggactct ggtctttctt ctgctgagga cagctgtcct 2760
cattgtgacc agtggaaca cacgatagaa gaggtccat tagctcctgt gcatcccagg 2820
agttgccacc ctgtccagtg ccgtttctgt ctgggcttat ttccattaca cagcagatgt 2880
ggtcacctca ttctttgctc tctcctttcc ttgccctcat cccagtttca ctgtgcccta 2940
ggagtgtggt ctttctccag gaacccttc agtgtctctg tcccttcagc agacacaccc 3000
tttagactgt gccttcagga accaaggcac ctggttctgt ccctgtctgt cccagcactg 3060
ccatcgttgc agcgtaagcc cctccctttg cagggaaga ccagggtcc ctgttccctt 3120
tgcgcactca catctttcat cccttaggtc actttgtgct cccctgccac acactttcca 3180
ttgtgtgtgt cctgtgttga aggctttcct gttatccatc ctcgcacgtc tcagctcctg 3240
tgcttttttc ggcaaggcca tttgtggctg tgttctgcct ggtccgttta accttatttc 3300
ataattatgc acacttcca gcttgaactt gaacatttgt ttctgtcttg tcccgttgg 3360
cccggacaca cagtgtgtt tcctgcccc tcttttcttt tttcttttca gacttctttg 3420
cctcagatgt ttgccattcc ccatctgtct ctccagatct taccatctt gtccttccac 3480

acgtccccga tgcctctgaa gatgccattc atgtttctct cccttccccg ggacacattc 3540
 ttaatgttgg agttggtgtt aggtactttc acttgcaatg ggagtttctt tattcacaaa 3600
 gcctcttgag tgttgctctc atactatttt gtgtgtcctt ccagggcagt gaccttgaca 3660
 gttatttgtc ttgttctccc aagcgcgggt gctaaggaca tagtctgtgg gcatgcagat 3720
 gtgtgtgact tgttcacacg aactgtgagg atgaggactt ggtgaatggg ggaaattcag 3780
 atccaaactg tatctccagg gcatgatggc gcctgtctgt agtgcagtta cttgagaact 3840
 tgggaggggtg agttgggagg atttcttgag gttccaggag ttcgagacca acttgggcaa 3900
 catagcaaga tcctgtctct at 3922

<210> 500

<211> 3614

<212> DNA

<213> Homo sapiens

<400> 500

ctttttctca gtggctctag ttgggctcca tgtatgcctt tgaactaatt cctgtagata 60
 aggagattag aaccaggag catgtgggcc tgccactgct gcagctgtct taacaccaaa 120
 aagagaacct agacctactg aggtcaccac atactacttg agaatgaagc eaacagaaca 180
 gtagcaaggg gcatgatgga gcaaaaccag ctctcttgc atcatgtgag cccgttaatc 240
 tggctatgcc taaagtgagt taacctggta tattagtcta ttctcacact gctagaaaga 300
 actgcctgag actgggtaat ttgtaaagga aagaggttca attcactcag ttccgcatgg 360
 cctcaggaaa ttacaacca tggcagaagg cacgagagaa gcaaaggcag gtcttacatg 420
 gcggcaggca agagacagtg aaggaggaag agcccccttat aaaaccatca gatctcatga 480
 gaactcacia tcatgagacc agcatggggg aaactgcttc cacaatgcaa tcacctccta 540
 ccagggtccca cccttgacac atgcaaatta tggggattac ctttcaattg atgagatttg 600
 cgtggagaca cagagccaaa ccatatcatt ctgcccctgg cccctcccaa atatcatgtc 660
 ttttcacatt tcaacatgcc ttcccaacag tcgcccagaa tcttaacca ttttggcatt 720
 agctcaaaag tccacagtcc aaagtctcat ctgagacaag gcaagtcctt tctacctatg 780

agcctgtaaa ataaaaagca agttagtta ttccaagttg cagtgggagt acaggcactg 840
ggtcaatggt cctattccaa atgggagaaa ttggccaaaa caaaggggct acaggcccca 900
tgccagtctg aaaccaggcg gtgcagttat taaatcttaa agctccgaaa tcatcttctt 960
taactctatg tctcaagttc aggtcatgct gatgcaggag gtgggctccc actgtctggg 1020
gcagttctgc ccctgtggct ttgcaggcta cagctcccct cccaactgct ttcattggctg 1080
gagttgagtg tctgctttca tggcacacag tgcaagctgt cagtggatct accattctga 1140
agtctagagg accatagccc tcttctcaca gctccattag gcagtgtccc agtgggtgact 1200
ctgtgttggg agtccaacc cccatttccc ttccgcactg ccctaacaga ggttcttcat 1260
gagggtctctg ccccttcatc acacctcttg cctggacatc caggcatttc cgtacatcta 1320
ctgaaatcta ggcagagggt cccaaatctt catTTTTgtc ttctgcacac ccacaggacg 1380
aacaccatgt ggaagctgcc aaggcttggg gcttacacct tccgaagcaa cagcttgagc 1440
tataccttgg ccccttttag ctacagctgg agtggctggg acgcagggca ccaagtcctt 1500
aggctgtaca cagcagggag tccagtgcct tgtccaagaa accgtttttc cctcctagac 1560
ctctgggcct gtgatgggag gggctaccgc caagatctct gtcatgccct gaagacattt 1620
tccccattgt cctggctcct ccttacttct gcaaatttct gcagctggct tgaatttctc 1680
cccagaaaat gggtttttct tttctacagc atcatcaggc tgcaaatttt tcaaaccttt 1740
ttgctctgct tcccttttaa acataatttc taatttcaga tcatcacact caagttttaa 1800
gttccacaga tctctagggc aggggcaaaa ttctgctagt ctctttgcta aagcatagca 1860
agagtgcct ttgcttcagt tctcgataag ttctcatct ccatctgacc tggacttcat 1920
tgtccaaatc attattagca ttttggccaa aaccattcaa caagtctcta ggaagttcca 1980
gagtttcca catcttctt ctgagtcctc caagtctcta gtaagttcca aactttctga 2040
catcttcctg ttttcttctg agccctccaa actgttccag ctctatctgt tacccaatta 2100
caaagttgct tccacatttt cgggtatctt tatagcagta cccactctc tgcagtacca 2160
atttactgca ttagtctgtt ctacattgt tataaagaac tacccaagac tgggtgattt 2220
ataaaggaga gaggtttaat ggactcacag ttctgtatgg cttgggaggc aacaggaaac 2280
ttaaaatcat ggtggaagg gagagagaag caaaggtata tcttacatgg cagcaagcaa 2340
gagagagtga atgagcaaag gaggaaaatc ccctataaa accatcagat ctctgtagaa 2400
tcattcacta tcacgaaaac agcatgaggg aactgctccc atgatccagt cacctcccaa 2460
tcaccacct taacaattgg gaattatggg gattacaatt tgagataaga tttgggtggg 2520

gacacagaac caaacatat cagctgggtga ttttgcagct cttcagattc ataaattacc 2580
 ctttgacgta agctgatttg ggttggattt gtatcactta aagtgaatac tgatttatta 2640
 gaccaagcaa aaaagaggaa agaatactgg ataaggaagg gagtgggggt tttatttggt 2700
 tgtttgtttt cctgagctca tcttatgtca ctttggttgt gtgcctaaca gtttactcc 2760
 cttgtaatac atcagacttc cagtcaagaa ccatttggca taccctacc caggcacata 2820
 gagctctcac taaattataa acccgaagct gtttaattctt ctcaaagctt atctctcctt 2880
 acagagttaa ggaagggaaa tggaggtgaa atcacatcct caggcttaat tccctctttc 2940
 aagattgcct gtggtccctc ctggatgatg ctttcttttc cagcatcact tccctgttcc 3000
 tatcctcccc caggcttgca gaccaactgt aacaatctaa tcacccatcc tggaactttt 3060
 catgtgcctt ttcttttttt tttttttttt tccatgactg ttacattgc ctctctcttt 3120
 ggctcctct tactgtcctt gtctactgtg ttattacag ttgcacaat gctcaactca 3180
 agtatcacta agttaagcct ctttcaatac tattgaggca taaagaatgg ctccgtcacc 3240
 tgtacatact ctcatgtac ttgtttccat gccactgata taatatctgt catgagaatg 3300
 accatctctc ttgcttttcc caggacaggg gggttcccag gatgctggat attcattttt 3360
 aaaaccagga aagtcttgat caagccagga gaaatttggt gccttgcctt ctacattgta 3420
 atagctctca tttaacatgc cactcgggtgc aatggaattt cattgagaca gtgaagcccc 3480
 aggtctcaga gagcaagctg tagccagagg taccagcttc gcctggggct tcaagaacct 3540
 cccatctatc ccattcctg agacaggagt tacagtcctt tttggcctc acatccaata 3600
 aagagactga tacc 3614

<210> 501

<211> 3647

<212> DNA

<213> Homo sapiens

<400> 501

taaaaaaaa aaaaaagaag agcaaagcag agctctgagc agcttcctgc cccagcatcc 60
 ctggttctgc tgctttcttc ttcccaggca gccgtgtcac acagacctgc agctgagatg 120

ggtgccatct ccctgggttg cttctgcaga ggaggcctct cctccccagt ggagcctcct 180
acctgccggc tattgactga gtgtccagct gaggacagca tccctgcagt gcatttcttg 240
cccactgatg tgatgtgttc atgactccca gcctctctgt ttgctctgcc actaatacaa 300
ggaggtgccc cagcctctgg gccctgcag ctgtgccagc ggatgggtgct gttttgtatt 360
ccttaatttg tgcagcacca gctgcgtgca ggcaactgtgc ttggcaccgg ggctgtaata 420
ggacccagac agatgcgtgc ctgccctggc caggctcatg ctctgcaggt ggggtcagag 480
gtcaacatgc agtagaggaa aggacagcag atgggggtgca caggcaggct gtggttttat 540
acggggcgat caggggaggca cccagagaa gggaacacag gcctgcagga aatgaggtgt 600
ggagtgggca gcaggaaggg cagtccaggg ggcaagtggg cacaggcctg gtgtgtacag 660
gccagaaagg aaaggcaggt ggccgtgtga agccgcaagg ggtggggggg agtggggagg 720
cactggccgg gtcttgcttc ttgcagcaa gcattgctttg ggcctacca ggtccctgcc 780
acctggggtc ccaatgcccc tacctgccct ggaggggaccg gccccaccag ccctctgttc 840
cttgacagctg tgccataagt aacgtgaaga aggtgtccct ggaactgggc gggaagtcac 900
ccctcatcat ctttgctgac tgtgacctca acaaggctgt gcagatgggg atgagttctg 960
ttttcttcaa caaaggagag aattgcattg cagcaggccg actctttgtg gaggactcca 1020
ttcatgatga gttcgtgcgg agagtggtag aagaggtgcg gaagatgaag gtgggcaacc 1080
cgctggacag ggacaccgac cacgggccgc agaatacca tgcccacctt gtgaagctga 1140
tggagtactg ccagcatggc gtgaaggaag gggccacact ggtctgcggc gggaatcagg 1200
tccctcggcc agggttcttc tttagccaa ctgttttcac agacgtggaa gaccacatgt 1260
tcatagccaa ggaggagtcc ttcgggcctg tcatgatcat ctctcggtt gctgatgggg 1320
acttggatgc cgtgctgtct cgggccaatg ccacggaatt tggcctggct tctggtgtct 1380
tcaccaggga catcaacaag gccctgtatg tcagtgacaa gctccaggca ggcaactgtgt 1440
ttgtcaacac gtacaacaag accgacgtgg ccgctccctt cggaggattc gaacagtctg 1500
gatttggcaa agatctaggt aacctactcc tgccctgtggg gttgctttca tttattcatt 1560
caacaaacat ctgttcaaaa ccacttaggg ccaggtccta tctcagatgc agggacgtag 1620
ccttgaacat gatggctgtc agggttcgtc tcttactggg agggaaacttg tgacaagtcc 1680
gtgagcaaga tgcttgca gaagggtgtcgt gctgggaaga aggcaagaag aggggcctgg 1740
aggagacact cccgccagga ggcaactggg gcctctctgg tgtggtggca cctgtgctac 1800
ccagacctgc atagcaggga ggagtgggcc gtgaagacct aggggcccggt gtttctggct 1860

gagggttcag caggtccttg ggggaaccag ctttggtcgt ggagctgcag agaggccaga 1920
gtggtgggag tgggccaagg gggagcagga gggaggagag agggcctgag aggcaggtag 1980
gggccagatt gaaggcccat gggccatggt caggggctca ggttgcattc ttagtgtaaa 2040
gaggagccat gggaccaa atgtacccccg gtgaacacca cgggtgttgc aagtctccca 2100
gtagaggatga agttactcag gcggcagcag gcgggggtccc ccggcacaca gcacaggctc 2160
cccagtgtc tgcctgtctg gtggcgttga gttctgtctc ggccctctct ccctgggctg 2220
ctccaagcct tgggcctcgt cctgtctctc cagcaggggg gactagacag gtctgatggg 2280
caagcttggc aggggtggct ggcaaggctc ggggaagcca tatgtgtctc cagaggtccc 2340
acctgtctct ccgggctcct gtgccagccc ggagaccaca ggggaaggtca tgctgaggct 2400
gggggtcaaa ggctggtcac tgtttccagt tttctctcct cccctgtccc ccatctttca 2460
agccctgcag aagcccccaa gggtagccat gagagggggc catgtgtgcc cacagggtg 2520
gactcacatg cacgcatgtg taggctggac actcctgtct cctctgtccc tgtcggcctc 2580
ctcttcctgc cttctcccag gccaccttc tgggtgtccac caggggaatc catggggccc 2640
atggccacc agggaaggct gtggctgcca agtccccagg acgtgatctg ggccccttat 2700
gaatcctgcc cgagttcccc cagctccctc ctaaccctag tccccatgtc ctgctgagag 2760
gaccagcacc ctctgggac agggccacaa gccaaagcctt ccaagcagcc tgcctgggca 2820
gactcaggac ctgagaggga cggggcagtg ccactcctgg ggccagccag agctgtctggg 2880
gagctgtcag gcagccccag gcctcacact tgtcatgggg ctgagatgca ccagccacat 2940
ggcactgcca aggcctgggg cctcagggcc ctgtgaggca tccccttttc ccagccacag 3000
cttgatgcag acgtggctgg gggcagccat gagagaagag atgggcccagt gagtctgggc 3060
agtaacgcca agtctctcca ccccttcca cctgaagggg cttcccactg tccagacaag 3120
gcggtgggag ctggggaaga ttcttaa atg gctgcctcag attggctttg tattctgggg 3180
agtcctggcc cgctatccac tgccagggat aacctgggta agattcatga cctcgctggg 3240
cctcgacttc tcacctggaa gtgggggtgag ccagagctgc cccacgtgg ttgctgagga 3300
ataagacact tgcagccccg agcagtgtccc tgcctgttgt gggagctgct gtgacctttg 3360
tggtgtctta caggagaggc ggctctgaac gagtacctgc gggtaagac agtgaccttc 3420
gaatactgaa gaaaggtctt tgtgagaaga aagtcctgc cctccctcg tggctggggc 3480
cccctccctc ttgagcctgg gtgcacagca cctcccacct ggggggctag tggaagccct 3540
cctgcctgca caccatgtct gcatcttgga cgccctctgt ccagtcagga gcagcccttg 3600

gctgggtgag gtgtgccct cccagggaga ataaagcttc tgaagag

3647

<210> 502

<211> 3647

<212> DNA

<213> Homo sapiens

<400> 502

ttttggtaga gacggggttt cactatgttg gccaggctgg tcttcaactc ctgactcagc 60
tgatccaccc gccttggcct cccaatatgt tgagattaca ggcgtgagcc actgtgcctg 120
gccttatata ttattaaat aacgtatgaa gtaatctttt gtatagtttc ctaaataaac 180
ctatactata gttttgcatg ttgtaaaatt ttaataaat gctattatac tatatgtatc 240
ctgcaattat tttatcatta tgtttttgag acttaatgta tattagtaca tgaagtttta 300
gctcacttat ttttactgct aatacagtag ttaatattta attgtataaa tgtaccataa 360
gaattttttt ccattttcct acttgagaac atttagtaat ttgcaaagt tagctcttac 420
aacaatgttg ccacagacat tactggaaat gtcttcttgc acgcatatgc taggggtatac 480
agtgaagggt agagttgctg actcatgctg tttcagaatt gctgagtcac tacgttttag 540
ctttggtgaa aagtgatctc ataaattagt ttgggaatca cttcagtgtg cctagagatt 600
aatctgaaac atttaggcgc tatectaatt tacttacaca tatatgccca agtcatcatc 660
agtaccaca tgggaaattg gtactgttgt gactatccac agttttaagg aaggaaacag 720
agattgaaga aggtgcttac aaacatagaa ctgctagagg tggagcccag aatgtcagtt 780
tgagagaaaa cagttaattc ctcgaaagaa tgtatgatat agatggagtt tagagttcgc 840
ttttgaattt agcagggtgc taagtcgaca gaagggcaca gagggaaaga acatttctga 900
tttgctttct tttttccttt actggttttc acacatgaag aacaagttgg atgaactcaa 960
caaacggctt catacaaaag ggtctacaga agctgaaacc aggaaattca gaggcagcag 1020
aatgaaaac aaggaaaaca ttaatggaaa ttttgaacct agaaaagggt tggtttgagt 1080
tttgaaggaa agtctgggtt gttttactgc ccctaagtac tactgttacg atttgctggt 1140
gttttatttg ttattatat ttcatttatt taatattgtc agattatgtt ctaatcctta 1200

gggggtgggtc cccaaatttg gcagcttaac taaggcttct acatttactg caatgctgga 1260
gcagccgaac tacccagaac aggcttgtgt tgtaatagtg tgggccgctt tgtctcaaat 1320
ccgcagttct atctgggagg gtcttgcaaa gtattctatg aagacttttc tccattactt 1380
gcatagaatg gtaagacttt aattaaagca acatgtatac attatttaat aagtgttttt 1440
cagaactgat tttctctagt agaaaaaata gtacaagaat ttatTTTTTT ttaaatttat 1500
cacttaagga attgtgaatt gcctaagcct cagtctctaa atattttgggt ctgtagggcc 1560
ccacatttcc aagaatctgt ggaagttttg actttagcct atccaaagtg ggcagatcaa 1620
gctccaggtt tttattgcag agtgtggaat gaagattttc atactgaact cccatctctt 1680
cttccgcaaa gagtaaagct tcagaccttt ttttttccta agaagagagc tttcctttgg 1740
aggctctgaat ctgcactggg ggtcttcatt gagttctttg gtaactgatg aacttccttc 1800
ttctgtactt agaagaccct cttgaatgcc cacttatttt atctatacat gttcctttta 1860
gttcttacct aaagactttt cctctgtatg acaaagctgc ttactttaaa tgctcattac 1920
tactcacttt ttatgctgaa ggaatgcata tttgagttgc tgtatgcata taatgatcaa 1980
tgtgtgcctt cttcttaatt aaatcattgg tgtacctgat aagcctcttc aggggtcaaa 2040
ataattaatt ctacagaaat ccaatcctat tggctttcca ttcagctgaa tcattttcaa 2100
atttattaca taatgtttcc tttatataca aattgtaaatt tctttacaac taaaaaaagc 2160
attctgtaaa tacagcattt acattatggg tttgataact gtaaagcttg acccatgggt 2220
aggatgatcag atcaaccaca aaagtgttag gaaaactagc ttgattaaat taaggagaag 2280
gtgctatatt aataataagt aagctagcca ttttaggtaa cttgactctt ccaacatttc 2340
tttaacattt gatgtaaaat ttaatatgca cctaacacag tttatTTTTT ttctttttta 2400
gagagacacc tcctctatgg gcgacctgca gtgctttatc ggactagata tgatatctta 2460
tatcacactg actttgaag tggttatagt gaaatattcc taatgccact ctggacatca 2520
tatactgttt ccaaacaggc tgaggtttcc agcgttcctg accatctgac cagttgcgtc 2580
cggcctgatg tccgtgtttc tccgagtttc agtcagaact gtttggccta caaaaatgat 2640
aagcagatgt cctacggatt cctctttcct ccttatctga gctcttcacc agaggctaaa 2700
tatgatgcat tccttgtaac caatatgggt ccaatgtatc ctgctttcaa acgggtcttg 2760
aattatttcc aaagggtatt ggtgaagaaa tatgcttcgg aaagaaatgg agttaacgtg 2820
ataagtggac caatcttga ctatgactat gatggcttac atgtcacaga agacaaaata 2880
aaacagtacg tggaaggcag ttccattcct gtccaactc actactacag catcatcacc 2940

agctgtctgg atttcactca gcctgccgac aagtgtgacg gccctctctc tgtgtcctcc 3000
 ttcatcctgc ctcaccggcc tgacaacgag gagagctgca atagctcaga ggacgaatca 3060
 aaatgggtag aagaactcat gaagatgcac acagctaggg tgcgtgacat tgaacatctc 3120
 accagcctgg acttcttccg aaagaccagc cgcagctacc cagaaatcct gacactcaag 3180
 acatacctgc atacatatga gagcgagatt taactttctg agcatctgca gtacagtctt 3240
 atcaactggg tgtatatattt tatattgttt ttgtatttat taatttgaaa ccaggacatt 3300
 aaaaatgtta gtattttaat cctgtaccaa atctgacata ttatggctga atgactccac 3360
 tgtttttctc taatgcttga tttaggtagc cttgtgttct gagtagagct tgtaataaat 3420
 actgcagctt gagtttttag tggaagcttc taaatgggtgc tgcagatttg atatttgcatt 3480
 tgaggaaata ttaattttcc aatgcacagt tgccacattt agtcctgtac tgtatggaaa 3540
 cactgatttt gtaaagttgc ctttatttgc tgtaactgt taactatgac agatatattt 3600
 aagccttata aaccaatctt aaacataata aatcacacat tcagttt 3647

<210> 503

<211> 1937

<212> DNA

<213> Homo sapiens

<400> 503

gatgcaacca ggcggccctc agccgtgcgc ttctcagct cttttctcca gggccgccgg 60
 cactccacct cagaccagct actgcggctg cagcaggccc ggcggggctc tggcttgggc 120
 tccggctctg ccacgaagct gctgtcctcg tcctctctcc aggtgatggg ggctgtttcc 180
 tcagtcagcc atgcagaggg aaaccaact ttccccgaaa gaaaaagaaa tttagaacgt 240
 ccaacaccaa agtacacaaa agtaggggag cgtttacggc atgtcattcc tggacacatg 300
 gcatgttcca tggcgtgtgg cggtagagct tgcaagtatg agaaccagc ccgctggagt 360
 gagcaggagc aagccattaa ggggggtttac tcctcctggg tcatgataa tatactggcc 420
 atggcccgcc catcctctga gctcctggag aagtaccaca tcattgatca gttcctcagc 480
 catggcataa aaacaataat caacctccag cgccctgggtg agcatgctag ctgtgggaac 540

cctctggaac aagaaagtgg cttcacatac cttcctgagg ctttcatgga ggctggcatt 600
tacttctaca atctcggatg gaaggattat ggtgtagcgt ctcttactac tatectagat 660
atggtgaagg tgatgacatt tgccttacag gaaggaaaag tagctatcca ttgtcatgca 720
gggcttggtc gaacaggtgt tttaatagcc tgttacttag tttttgcaac gagaatgact 780
gctgaccaag caattatatt tgtgcgggca aagcgacca attccataca aaccagagga 840
cagctcctct gtgtaaggga atttactcag tttctaactc ctctccgcaa tatattctct 900
tgctgtgatc ccaaagcaca tgctgtcacc ttacctcaat atctaattcg ccagcgtcat 960
ctgcttcatg gttatgaggc acgacttctg aaacacgtgc caaaaattat ccacctagtt 1020
tgcaaatgct tgctggactt agcggagAAC aggccagtga tgatgaagga tgtgtccgaa 1080
ggacctggct tctctgctga aatagaaaag acaatgtctg agatgggtcac catgcagctg 1140
gataaagagt tactgaggca tgacagtgat gtgtccaacc cgcctaacc cactgcagtg 1200
gcagcagatt ttgacaatcg aggcatgatt ttctccaatg agcaacagtt tgacctctt 1260
tggaagaggc ggaatgttga gtgccttcaa cccctgactc atctgaaaag gcggctcagc 1320
tacagtgact cagattttaa gagggccgag aacctcctgg agcaagggga gactccacag 1380
acagtgcctg cccagatctt ggttggccac aagcccaggc agcagaagct cataagccat 1440
tgttacatcc cacagtctcc agaaccagac ttacacaagg aagccttggt tcgcagcaca 1500
ctttctttct ggagtcagtc aaagtttgga ggcttggag gactcaaaga taatgggtca 1560
ccaattttcc atggaaggat cattccaaag gaagcacagc agagtggagc tttctctgca 1620
gatgtttcag gctcacacag ccctggggag ccagtttcac ccagctttgc aaatgtccat 1680
aaggatccaa accctgctca ccagcaagtg tctcactgtc agtgtaaaac tcatggtgtt 1740
gggagccctg gctctgtcag gcagaacagc aggacacccc gaagccctct ggactgtggc 1800
tccagtccca aagcacagtt cttggttgaa catgaaaccc aggacagtaa agatctgtct 1860
gaagcagctt cacactctgc attacagtct gaattgagtg ctgaggcaag aagaatactg 1920
gcggccaaag ccctagc 1937

<210> 504

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 504

atggtgattt gccatgctcc cctagaagtt tgtgggcctt tttttttttt cttttttttc	60
ttttcttttg gtggcggggg gacagaatct cgctctgtca cacaggctgg agtgcagtgg	120
catgttctcg gctcactgca acctctgcct cctgggttca agcaattctt ctgcctcatc	180
ctcctgagta gctgggacta cagggtgcatg ccaccacacc tggctaattt ttgtattttt	240
agtagagacg gggtttcacc atattggcca gactggtctc gaaatcctga cctggtgatac	300
tgcccacctc ggcctcccaa agtgctggga ttacagggtg gagtcaccgt gcctggccct	360
gttggtgttg tttttaacct aacaaatgcc ttttgaggat tatgtgtcag gtacttttct	420
attgctgggg atacagcaga gaaccaaagt ccctgctctc ctgaagttaa tactctagt	480
agctgagaca ggtaatttta aacatgcaca ggactggagg taataaatga agcaggcagg	540
ggataacgag gagggggat gtggtagcag tatgtccaac aaactaggaa gctttactat	600
ccaactatgt atttgccttt tttgtttttt cctgagacag tcttgctctg ttgcccaggc	660
tagagtgcag tgctatgata tcaacttact gcaacctctg cctcctgggt tcacgcaatt	720
ctcctgcctc agcctcccaa gtagctggga ttacagggtg gtcaccatgc ccggctaatt	780
tttgattttt tagtaaagac agggttttgc catgatggcc aggctggtct cgatctcctg	840
acctcaagtg atctgcctgc cttggcttcc ctaagtgttg ggattacagg caggagccac	900
tgcacccggc ctccatctgt gtatttgaat gcaaagtcag tgcttttttg ctgtgcaata	960
ctaaaggata ggatagcatt atttcaacca taaagaacca catgattaaa ggcactatta	1020
ctactattat taagagactt aaatcctcaa cacctcttgc acagattgct ccaaggcttt	1080
cctgaccgag tttccctgac cttgggctct cccctctcca tgaagctttt gtacaaggat	1140
tgtttcagca tgaaacaatt gagcccattg cctttgccct gggctctgtg tttcctgtgg	1200
aagccatcta aactcagtgt gctcagcttt gcttctctc ccagtacaaa gccctcccag	1260
caagccggac tggatatgct cctgattcgc gtgtccacca gctccactcc agcgtgtact	1320
ttctaccttc ctgttaatgc agagtgcga tcctgtcctt tgaacaatcc aacttgggag	1380
gtaccttga ttaactagag cccaactctc cctttctaga tgatgggaag acatacagag	1440
taaagaacct gctctgaatt ccattacaca atgagatgat cttcagcttc tccaaccaac	1500
ctgaagcccg tgtcctctgg cgtctggtac tcagatgtca cgaagcacgc cattggacta	1560

agatggtggt ttcgcatagt gccagcacc taacaggcat cactatatac ttgctgatgt 1620
 gtgaattctg ttttactcca gtgattcagc tctgccaggc cattgtttca cttacctgcc 1680
 tcctgaaact ctgcaagact tggtagaaaa tgaatcatca atttgacttg ttgtttcttc 1740
 aaaactttga ctgtgacctt gaaactgtgg ttctgaaaac aagtgaatct ttgaaaaagt 1800
 aaacagaaac acataaaatt attttcctaa acacattaac taatttagcc tttgaaatga 1860
 tgacctaaac atgacctgct gacttttggt acagtaaact ggtacgaatt ttagaaatcc 1920
 ttttaattttc catgtctaca ttcatgatca attagaaaca tgtagctgc accattcgtg 1980
 actattttatt taattcagag acatcaaagt aaaatgcaac aacaaaggta actttctata 2040
 gaacaccctg ttgtgaagct gtgaggtatt ttaaagcttt attgtggtca gaaatcattg 2100
 ttcatcagtt ctgacattaa cgacaaacag tattttggaa agacatagtg tagtttcctt 2160
 ccttctcaat ggaagacact tgctgactta tcggaatcct gtgaatgcca ataaaggagg 2220
 ctatagtgg 2229

<210> 505

<211> 3331

<212> DNA

<213> Homo sapiens

<400> 505

aagctgcggc ggcgcaggag ggggcgggtt cagcgagggc gcagcctctg agggggggcg 60
 caggacacgc atcccccgcg atcgcccggg cactcggga gcctcgcggc agcccggcgc 120
 cccacttggc catccgctcc ttgcccgcct cctcttgta cctcccgtct catccttctc 180
 gctccttccc cgccgcatac accggcatcc gagtgcctca gagagccgga ggtggtgtgc 240
 ggggctgcag ggcacgactt caagcgggcc tcagctccgc actagggggc acgggcaaca 300
 gcatggacac caagcgtgc ttgcgaatc gcttcgatga ctaccagggc agcctgctgg 360
 cgggccagtg tgaggaggcg gtggcgccct tggtcaccgc caccatcgag cgcctcctcc 420
 aggagcttcc cccactcggg ggcggcgccg agggccgagg ggcgacggcg ggggctagcg 480
 cctgccaggg ggggctttat ggcggcgtgg ccggagtggc gtatatgctc taccacgtct 540

cgcagagccc gcttttcgcc acggcccggg aacgctacct gcgctcggct aagcgcctca 600
tcgacgcgtg cgcccgcgct gaggagtggg gcgaaccgga cgccgacacc cgcgccgcct 660
tcctgctcgg gggcgcgggc gtgtacgccg tggccacgct cgtataccac gccctgggcc 720
ggtccgacta cgtgcagccg ctgggcaagt tccgggctct gtgtgccgtc tgcgcgccgg 780
tctccttcct ggagtgcggc tccgacgagc tgttcgtggg ccgcgcgggt tacctgtgtg 840
ccgcgctggt gctcaagcag aaactcgccc aggagggtgct gactccagca cagatcaagt 900
caatttgtca ggcaattctg gactctggga agcagtatgc cataaagaag aggaaccat 960
tccccctgat gtattcttac tatggaaccg aatacttggg ggcagctcac ggcttgtcgt 1020
ctattcttca gatgcttctt tcttaccatg agcatctcaa gccctcagat cgggaattgg 1080
tatggcagag cgtggacttt ctcatggaac aggaacaaaa ctgcaactgg ccacctgagc 1140
tcggcgagac catcgagaga gagaatgagc tgggtgcaactg gtgccatggc gctccaggaa 1200
ttgcctatct gtttgccaaa gcttatctgg ttccaagaa accgcagtac ctggacacat 1260
gtattcgggtg tggggaactc acatggcaga aaggcctgct aaagaagggg cctgggattt 1320
gccatggagt agccggcagt gcctatgtct tcctgctgct gtaccggctc acgggaaact 1380
ctaaatacat ctaccgagct caaagttcat tccctgtaaa cttgataaag atggaacatc 1440
tgctgtatac cagacaacat tgcttttaac agatattacc tctgactggg ttgctcaatt 1500
cttatttacc gaggaattca aggcgggttc tcgggtcctt gaaagtatat acagcttgta 1560
tgaaggcttc tctgggacag tgtgctttct gattgacctg ctgcagcca atcaggctga 1620
attcccactc ttcagcgtct ttgttttagaa ggctctatct tccactgtgg ccctgcagag 1680
atccccctgag ccaagccgag gcagtttcca cataagccac attcaatggt atcgcaacca 1740
tgagccctta cattgccatc agaaggaagg aatcaggcag gtgaaggcaa catgatgcca 1800
gatttgagaa aggatctgca aaataaagat accacaattc atcttaaac tgcagagatt 1860
taatgtgcca gggaatagat gtgaaacaag ggatcatagg aaaaggggaa agagaaatga 1920
tctgtttttc agttatgaca tagaaaacca aactgcaagt gtagactatg acaaaaaata 1980
cactaatacc tttgcaatct gaatgagaat ttgaccattt gtgtgtgccc tctaccctta 2040
aattcagaaa taaagacaat aaaaaattaa aataattgcc cagctgaaaa ctgctatgag 2100
gaatggattg tcaggttgct gaagtataaa aataaactct tggttgctct gtgcttatac 2160
ttattgaaat ttatggtttt tactgagcaa agatatttgc atatgaatct ctatTTTTTT 2220
cattaccctg ggcaatttaa agaaatcata tcatagcgta gttcagatac taaaatttga 2280

agtttcctta ggcctagaa catctctttt cctggttcct tttttttcct caaagctcaa 2340
 ttagaatagc aaaatttata agctagtaaa cttatactat agcaagtgtt gctgtaaagt 2400
 gtttttctcc ataggaagtg tgaactgtgt attgtctatt gttagtaatt ttaaaaatgc 2460
 ctttatgtac ataatcttga tggagctatt agctgaacta taaaatatgc tcttggtaaa 2520
 tatcactaat ttcaaagatc aggggaacca ctacaaagac gtgtcatttc tgcctttgtt 2580
 tgggacaggc agacaggctg aggaagtcac cagtgtattgt ggaaataatt ttgctccatt 2640
 ttatactatt aaatgaagag atgagtgaat tctgtggttg gttaccttac cttccaagat 2700
 acagggtcca ctagaaattg gctgtataac tcattgagcc aagtgtcat atcaaattca 2760
 accctgctgt aaacacatag aagtgtgtaa actgcttcaa gtaaatagtg gtttgcagaa 2820
 cactgtagga gcatctgtca cttcattatg cagagcataa gttgatcctt ttcctagaat 2880
 tttgtcagtg gcaattgcat atatcagatt gagtaggaaa ttgtgtactg tataagactt 2940
 atttaaatag tcattaaata tttggatata ttatgtgtgt gtgtgtgtgt gtgtgtgtgt 3000
 gtatggtgtg tattccatat ctattcccat gtaaattcaa atacttattc tttatttcag 3060
 taattcttaa cttgaatcat agactttgga acgagttagg gaatgctctg ttgcctaaaa 3120
 agcaaacctt caagtatgtt ggtgtgtgta tgtgtatgga ccagtttgtt tgtgtgtgtg 3180
 tgtgtctatt ttgaggggac aaggatctct agcattcata acattctcaa agaattctgac 3240
 caaagaaagg taacaactat ctttgtgtat tttatgactg tgtgtgtttg cactcattgc 3300
 aataaagtag gacaaaatga ttttgaaatg c 3331

<210> 506

<211> 3012

<212> DNA

<213> Homo sapiens

<400> 506

agatcatgaa tattacaatg aaattccagg gaagcagcca ccagtaggtg gtgtttcaga 60
 tatgcggatc aaagttcaag ccacggaaca aatggcttac tgccccatac agtgtgaaaa 120
 gttgtgctat ttgcctggaa actccaagtg cagcagtgtg tatgagaact gtttagaaca 180

aagcagggca ataggtaatg tccatccaag aggggtgcag tcccagcgag atacctcatt 240
attgaagcac acgtgccgag tggatctctt tgatgacccc tgctacatta atacacaggc 300
tcttcaaagt acacctggct ctgctggaaa tcaaaggtca gccaaccac tggggagccc 360
atggcactgc ggaaaggcac cagaaactgt tcagccgggt gccacagccc agcctgccag 420
ctcacattct ttgccacaca ttaagcagca gctgtggagc gaagaatgct atcatggcaa 480
gctgagcagg aaggcggcag agagcctctt ggtaaaggat ggggactttt tggttcgaga 540
gagtgaaca tcccctggcc aatatgtgct gagtggacta cagggaggcc aagcaaaaca 600
tcttctcctg gtggatcctg aaggcaaggt gaggaccaag gatcatgtat ttgataatgt 660
cggccacctt atcagatacc atatggataa cagtttgcca atcatctcct ctggaagcga 720
agtaagcctt aaacaaccag tgagaaaaga taataatcca gcacttttgc attccaacaa 780
atgacagtat tgaagcacca tcacactgat atttcaagaa accccatttt gtattaggac 840
acaaagataa tttaaacttt gttttagat aaaatagagc acaaactgtg aagtgcattct 900
ttccaagacc atcatggacc aggtcctcta taaaatgaag aactaacaaa aattagtctt 960
cagaaatgaa aatcagaaaa gaggaagagg gttggtcatt ttaaaagaaa ttatatgtat 1020
gcacggatgt cactttttaa ggccatattg cattgataac aagctaaaag cacaactaaa 1080
atttcacatg ctaacgacaa cttgaatgaa ctgctggggc agtggatatgt gcctttcaac 1140
ttgataattt gggggacatt ttcatatagg gagattaatt ctaagtatct tcatgttcta 1200
tgactataga accatttgcc aaaaaaaaaa gcttttcttg ctacaaaaaa taagcaattt 1260
tcttgagcct tattgacttt attacatttt ctgttttagca gcatttttca ctgcaatgtt 1320
aaaataaata tgacattgaa ttcgaactgt gtgtatgtca gtggaatcaa atcaaaagcc 1380
actaacatgg ctgtctgttt cattggactg tcccatttgc tggttaaaag gattggggcc 1440
caaatcctct ggcctagcat ttctcagtgt ttgctattca gactgtctaa atacagcatg 1500
tgacaagctg aagaagccaa atctatcagt catttctgat ttcattatat tctccccctc 1560
ttcctgctaa aaagacaaaa aacaaaaaac aaaaaaaaca aaaaaaacct catgagtgca 1620
tggatttaaa agaggggcaa caaaaccagt attcttcata ttactattc aaattgggtt 1680
cattcttagt aaaagtacag aatctatttg aaattatagt aaaatttctt cttgattggc 1740
tgacactgaa tcatagtttc tcacctacat atatccttag cacctcgtat agatatgata 1800
agacaaaatg cagaagaaaa aaaaaacata ttgaatgaag cacttggaag gattttccac 1860
atgtagacca actggtaaac taacagagtg attaagcatg gtgtacagaa aagcattacg 1920

ctgagtctta ccagtgtgac cttcagcaag ttgctgaatc tgtttgggtt ccagtttcc 1980
 tggcaataaa atgagctaaa tgggctaggt gaatttggag gactacttca gtcctaactt 2040
 atagtatgag tctctaaaaa gcaagttttt catttgtag aggtcgttat tgataaccag 2100
 tctgtatagt taaggtaaaa aattaagctt ttcttctata gtctgtgtcc atactcacag 2160
 aatgaatggc acacctgaga tcaacattca catagtttag actccaaacc attcagtcta 2220
 aaatactgaa actttggaat atagggaatg atgataaaag tggatttggg ttgagtagca 2280
 gaaaactact tatgtccttt tcttgccttt ccaagaaaaa tgttttttgt tttttttttt 2340
 aatcttgagt tatctggata ttgccttgac tccatttcat tttggctatg tagatacaac 2400
 ttagtctttg tgattgtgat atatttgcta agttttaaat aaaacttctt ttggatagaa 2460
 atcattagaa accaagcata ctgcactcta atattttact gtaaaggctt atgattttta 2520
 tttctactgc cattaatfff ttagatggat ttgtttcctc ttacacaact agaattaatg 2580
 tatttttcac cagttttcca tataccttag gtcttgatcg tttgtcctta aaaaggggat 2640
 cagcatgagt atagacagta gaaatgtatg ggtagtctaa ccacttttat cagagacaga 2700
 gcagggctgt ggtctcactc tagctgagca gagtattaac ttggtagcaa gagttcctga 2760
 taciaataga tgcaatgact gtaaatgggtg tcagcagtag acatggataa tcagtatttg 2820
 actgtaatag tatagtagtt aaatacagca cttaaaaata ccacagacac agttaagca 2880
 aaaggaaaca ataaaaggaa tgtctgcatg ctattttaat ctcacattct ttatctgtct 2940
 taaagtggaa atccatttgc ctataaatac ctgtaaacga ctttaaaaaa taaatgatta 3000
 ttgctttgtg ac 3012

<210> 507

<211> 2533

<212> DNA

<213> Homo sapiens

<400> 507

cagaggacag ggctcagaaa cagaatggga cgcagccact caagggaagt agaggtccct 60
 tgaaggactc ctgtggcttc tgcattgcacc ttctcaacc cctgaggagg gttagatcat 120

cggagcaata ttcttgtcca agttccagtt ttctacagtc tggctgtgta gtcatttctg 180
tgtgcttgaa ggagcttgta caagtattga ccacataagg cagcatgttg caagggtcct 240
acccaacaga ttaacaggaa agaaatgggg catgggtgtg aggagtggaa agacagggag 300
gaagggccat ccaggcagtg tggcagaagc aaagaagccc acagctgggg ggcgggggta 360
cagtcaactg gcagggtgtg gaacagggat gttgcatcgg gaaggccagc cttatggact 420
tggtgctcaat ggacagtgtt ccataggctt cttagttag cctcagagtc cactgtgac 480
tggtgcagct tggtgtagct ctctcgggc cccatctctg ggcctttggt ggaggcttct 540
gagggcccca ctcccccttg ttttgaggca ctgctcccca tcacatctca actgtaacac 600
tctgctgcag aacctctgtt tccatgtcaa caccctagtc cctgcatgca cacaagagg 660
gcaccatggc tgattgtctc catggctgct tctcccctgc atcgtgtcct taaagggcaa 720
gtttcctgct gcacttggtg acgactcacc cctttcagcc ccagtgtcta gcacaatttc 780
cctgtacaca gtatcaacag aattgtatit gttgaatggg aggcacgagt catgttagaa 840
ggccgattat ggcagcacia gaggatgtgg gggcacagag agtccaggaa tatcatagag 900
acagacctgt aacacttggt agccaggagt tggagcatca gggaggtgaa tacagatttt 960
ggttaaacad cccattttc ttgttttagat gtaataattg atccccagca aatgatggga 1020
tgccctgaag gttgtaaggc tagttttgat ggcttaggcc tttgaaatcc aatttgagc 1080
tacagaagtt agggccatga aaaggagag ttgatttggg gtggaaggat gagttggtga 1140
gtttggtcac agcagattga tttgaggttc tttggaaata cagagtagat ttgcagtcac 1200
tggtaccag cagagagatt aaaactgagg gcacagtggc agctgtgagg gagacagaac 1260
gatgctcatg ctttgattg gcaggaaaga ggggctatgg cggaaacaaa aggagatgag 1320
ggcaggggca cttttaggaa ggactgaggc tgctggcagt gtcacatgac tgttgagaag 1380
aagggaattt gttagcaagt ggttacattt agtaggaaaa gtgttgaggg catgggtttg 1440
gattaaagga gggagtgagc aattgaggag gaagtggaaa ttgggcaaaa cattcctttt 1500
ggaagtttgg atggtaaaag gaagtgttg gggaaggga taacaggatc tttatgtttg 1560
gcttatttac tggtctatgg ggaggaggtg ggcgaggaaa aagctagata caagacctgg 1620
gcaaacaag aaggctctgg agggaaagtgt aggttagaac aaaggtagt ctgagaggta 1680
agagagaagg aacacacttt gggcttgccc tgaaatgaga gggaatgagg aaaactgggt 1740
agagggaag gatgctccag cctggtggct ctgctctcca agaggaagga atagagcttt 1800
agaagtgtgg atggccagag ttcagggcag cctggctccc aagcctacct aaaacaacca 1860

tcccatctct agacccgtgg attgaggact gggcagagat gaatcatcca ttccaggga 1920
 gccataggca gaccccagac ttcgggggagc acctggcctt gctcccaccc ccaccttctt 1980
 ctttgcctcc tcccatgcct tttccctacc cacttcctca gccctcgcca cctcccctct 2040
 tcccaccctt gccccaggat accccttttt tcccaggcca gcccttccca ccccatgaat 2100
 tcttcaacta taatccagtg gaggacttct cgatgccacc ccacttagga tgtggccctg 2160
 gagtgaactt tgtgcctggc cctctgccac ctccaatccc tggccctaata ccccatggtc 2220
 agcactgggg cccagtggtc caccggggga tgccacgcta tgttcctaac agcccctacc 2280
 atgtgcggag aatggggggg ccttcgaggc agcggctcag aactcagag agactgatcc 2340
 acacatacaa actggacaga cggcctcctg cccattcggg gacatggcct gggtagactg 2400
 gatcttgggc tgggactgga tgtgccaatg gcccttcagg gcctgcctgg cacctcaggt 2460
 actgggctag ggtgtctgct atgcctggta ttgttcttgt ccattgctgt caccaataaa 2520
 ggcatggaag aac 2533

<210> 508

<211> 2396

<212> DNA

<213> Homo sapiens

<400> 508

aaaacaaaaa aagatgtatt aattttttta aacatatggg atgcatcat ggggtgctggt 60
 gccctctgtg ttctgggtgc catcctggga cgcagcagt agcgagaaga tgcctgcct 120
 caggagccca atgccagagc gggaactgca gagtcaagt aagcacgat catgtctcac 180
 agggctggtg gcctcccagg aggctggaac aggaggcgac acctgacatg agcaaaggcc 240
 ctggcgagga cagagccccc ttagtggggg agacggcccc tgagggatca ggcgtgcctc 300
 ccaggctccg tgcctcccag gctccgcacc tcccaggctc cgcaccccca ccagcctctc 360
 cctgtggggt tctgtccca gcgcctcctg tccttctcac cctcccagg actgacacag 420
 gcctcccagg gatcgggtgct gttgggtcgg gactcaggga tcggtgctgc tgggtcggt 480
 ctcagcaggg cctggggctc agcagggtg gggccgcctg gccctgaca ctggctgcat 540

ttcaggaatc ctgtatggca cgatgaccct ggagctgggt gggaaggtca ccatcgagtg 600
tgcgaagaac aacttccagg cccagctgga attcaaactc aagcccttct tcgggggtag 660
caccagcatc aaccagatct cgggaaagat cacgtcggga gaggaagtcc tggcgagcct 720
cagtggccac tgggacaggg acgtgtttat caaggaggaa gggagcggaa gcagtgcgct 780
tttctggacc ccgagcgggg aggtccgcag acagaggctg aggcagcaca cggtgccgct 840
ggaggagcag acggagctgg agtccgagag gctctggcag cacgtcacca gggccatcag 900
caagggcgac cagcacaggg ccacacagga gaagtttgca ctggaggagg cacagcggca 960
gcggggcccgt gagcggcagg agagcctcat gccctggaag ccgcagctgt tccacctgga 1020
ccccatcacc caggagtggc actaccgata cgaggaccac agcccctggg accccctgaa 1080
ggacatcgcc cagtttgagc aagacgggat cctgcggacc ttgcagcagg aggccgtggc 1140
ccgccagacc accttcctgg gcagcccagg gccccaggcac gagaggtctg gccagacca 1200
gcggcttcgc aaggccagcg accagccctc cggccacagc caaaccacgg agagcagcgg 1260
atccacgcct gagtccctgcc cagagctctc agacgaggag caggatggtg actttgtccc 1320
tggcggtag agcccatgcc ctcggtgcag gaaggaggcg cggcggctgc aggccctgca 1380
cgaggccatc ctctccatcc gagaggccca gcaggagctg cacaggcacc tctcgccat 1440
gctgagctcc acggcacggg cagcacaggc accgacccca ggctcctgc agagcccccg 1500
atcctggttc ctgctctgcg tgttcttggc gtgtcagctg ttcattaacc acatcctcaa 1560
ataggagccc tgggggcaga gctcctggcc agtcccagc cctccctccc aggcacccag 1620
cactttaagc ctgctccatg gaggcagaga ggcccggcaa gcacagccac tgtgacgggg 1680
agtccaggcg caggaggagc ccggggccac aagggcgctg tggggccagg tgtgctgggc 1740
ccctctcagg ggcaactggc tctctgcagg gccttccgcc cagcgtggc cttaatgcta 1800
aagccaaatg cagcttctgc tgtgcgacgc actcctggcc atcttgccgt gtcacccct 1860
gtccggcctc cacttgccat gggggatgga tggatttagg gtgggagggc ctgtgggggc 1920
cctggacagt cacacccag cagcagtgag tgggcaggtt tggaggagca gccagggagc 1980
cccgagtggc ccaggagtcc cccacacac agatgcatag gcctgccttc cggagaccct 2040
gtccacattg ccgggaccac cctggtgggg cacttggtgg gtgccaggga caggttaggg 2100
ccactctggg gaaggcattt tggtttttta ttccacgctg tgctgtttgg atgggagccc 2160
cacagaggca ggtcctggaa ccaccccacc cccacacctg gacgctcgct ctggtggggg 2220
cacacgcagg tggaggtggt tgtgggtgca ggtgtgtgca ggggtgtggg gggcgaggg 2280

gtgtggctta gctggccccg caccaggcc ggggaggctc aagttcgcca ctttactcag 2340
accgatgcac agtcttccca ttttacactt ttttaataaa cataattgca atattt 2396

<210> 509

<211> 2021

<212> DNA

<213> Homo sapiens

<400> 509

aaaataaccg atcatgccag ccgtccactg tagagaagtg tgttaatggt acagaaatgt 60
cagccttgct gatacctgag tctgaggaac aaggaaataa agaaaatatt caccaaataa 120
agcagactgt acctattcat gcagccaatc tacatattat gcatccgcat cccctcaag 180
aaccatcagc agataagaat aataacagaa gaagattacg gttaaaaagt accagcagag 240
aaaggacaga gacaccagc ggtagctctt caggaaataa taggattgaa gataaagcat 300
caactatcct caccactgtg tccaacaag gagcagagct gttgaactcc ggcactctag 360
gacccagtc tctgatcaa tcagatgagt ggatttttcc tgaaaatgct gaccacattt 420
catatctggc atccagcaga cagtctctac ttctgggtga tgactcctgc aaccatcac 480
acctgtggct ggaagccagc aaagagagtg aacacgacca gcaggcagag gaatcccaga 540
gtgttccaaa ggacattttc actttttcat caagaccacg atcagcacct catggaaaga 600
ctcagactat gtccccagag gagctctcat ttattttgga tctaaaagag gataacagtg 660
tgacaagcag agacacccaa tcagaggatg atttttacgg cggcgacagc agtgaagagg 720
gtaaccacag tatccagggt tctcgaggcc caacaactgg tccttcagag ttaactcagt 780
taacattaga gagcctgctg gggaaggctg caaagcggac aagtaaggaa tatctaagga 840
gcgcttacac agaagcagga gcaacagaaa gccaggattc ctcgatggag caaatagata 900
gaaataactt tgaaatgagt ttgttgccca caacatgcct ttctccaact ggaagaagggt 960
gtgggtcctg tcagaaaact ccagagccccg taatcaaagc gaaggatcta tcagcccagc 1020
aagtgccagc ttactaaac aaaacctccc tgaaagaaat ctcaggggaa aggctgagct 1080
cgatccccga agcatctgaa tatgactggc gaaactatca gccaagccag atgagtgaat 1140

ccgagttaca gatgctagca agcctacggt ggcaacaaaa tgaagaactg gaggatgctg 1200
 ggacctccca tggcctgagt gcctcccagg tggacaactg taatgtcagc ataagtacca 1260
 gcagtgcga cacaaccacc tggaaactcct gcctgccacc ccctgtcaac cagggtcgcc 1320
 actatcagaa agaaatgaac ccaccttctc cttctaattcc ccgggactgg ttaaatatgt 1380
 tgagcccacc aatcgttcct cccagtcaac agccggctga gcagcgtcca gattcctgtg 1440
 aaagtttgag tgttcaaggt gaagaagacc tcagtgtgga agaggacgag gaagtactga 1500
 ctttgttgta tgaccttgt ctgaactgtt actttgaccc ccaaacaggg aaatactatg 1560
 agttggtata atgcctcctt ccggggcaga gagcaggcac tcccagctgg agcagaatag 1620
 cagttcaggg tcgcttaagg agtcaccaca acttatgtgt tgggtgacca caaatcaac 1680
 agtaactgag agaaacgaat tcattttgta aataatgttc aacgttaaga atacctatat 1740
 tccttttgta gatgagtatg attttgaaac tgaagaaatt aatacagagg caagatttta 1800
 ggagtttgaa ttggttcttg ttgtttctca ttctacatat aattttgttt atttcagata 1860
 attttatgta aacaaattaa gagttattca ttcaaatttt ttgcagtgtt aatctgtaaa 1920
 tgatggcttg atgtacagaa aatgtatttt tgcttaaaag atgcctgggt accttttatt 1980
 ttatggcatt tgtattaaaa ataaagtatg atggtaagaa g 2021

<210> 510

<211> 2690

<212> DNA

<213> Homo sapiens

<400> 510

ctcaacaatt ttgtcacact tggagcgtcc aacattccac aggcatcccg tacaaccccc 60
 aaggacaggc cgtagtagaa cgtgcccact tcacccttaa aaatatgctc agaaaacaat 120
 ggagaatatg agtaaagacc ctgcaacact actagcacia gccttactta cccttaattt 180
 ctgaaaattta gatgataaat ttcagtcagc tatagaaaag cactttgcta aaacctctcc 240
 agacataaaa ctgcagtttt atggaaagat gtaaatagta atatatggca tgggtccaaat 300
 gttttgctaa catggggaag aggatatgct tgtgttcaca tcccctcagg ccctctttgg 360

attccagcac gacgcatcaa accataccat agtgggggcta ggaccaacc cagtaccaga 420
aatgaaggaa acgaccctgc aggccccgca gccccgcag gccccgcagc ccctgcagcc 480
ccggaagaaa cgggttcgtc ggacgacaca gcttcgtcgg acgacaggag ccccagacat 540
tacctggggg atgctgaaga agacaactca ggaggctgag aggatcctgc tccgaacaca 600
gacaccattc actccagaaa atttgttctt tgctatgctc tctgttgtac attgcaactc 660
acgcaaggat gtaaagccag aaaacaagca gtaactgcta tgcctgacaa aactgttgct 720
gcacacatct gtactcgtca atcaacaaaa cctgatgcaa aaaacagaaa aggggtgatg 780
taggagatgg tcaggttggg aggagaagct ataaggaaag acgcaattgg aaggtcggga 840
ggttttccaa agcttcagga gagaataaag ctgaaggcag ctttattaat taattctctt 900
acctgaggc tgagggcgaa cagtaggtag caagggagtg taaaggaatt tatctagata 960
agtttgttta cttatgccct ccggaatca tgcaagactg ctccctgcaa aggggggcga 1020
caatgttcat tactcacaaa ttgtgttggc ttcaggcctt tgggtattctg tctctactga 1080
ataaatacaa atggttccag cctatcagga ctgcactctc ttctcggctg cactaaagct 1140
ggcactcccc cagccgttct catgcaaaat acctgtgtca gaatactcct ttcattccatc 1200
actcagccag agtcttcagg acagactccg catgggactt gtccaaaaaa attctaataca 1260
aaagaggaaa attttggaa atgccaggaa tagtggaatt ttatttttta aattttttta 1320
taggcccata tgctctatct caagaaacaa gatgattgta acatgtccat gattaaacta 1380
ttggcagatt attgctgtgt taatctctgt agtctaata gttctttgtt ctgttctgct 1440
gccttttacg ttttcttgtc ctttcaaaag tgttcttgaa gaaacaaagc gaataggcag 1500
ttagcacagc acagctaccc cttaccaagc agtctatgga aacaaccct catccaaatc 1560
atgggttagt taagaatcta actggggcaa ttaagatgaa ttccactcac ttcttggtca 1620
cttcagcagc ccagcggcat tgagccaaaa tatacaattc tgtgttatta gtgaggaaac 1680
tttaaaactc atgtttgtta ttacttacta cccaatttca ttatcctccc ttctctttc 1740
catttctatt ctctctcact tgaattctgg cattattttt agtggcctct actgataata 1800
cctaccctag agtacataaa aattatatta aaagaggaag tagcagtatg cataatttta 1860
acagattcta taatgggtgc ctcaaaatat gtattgtgcc attccgcaa tttaaaagct 1920
aattgaggac aatttttttt taatttccta aatgagacca ccttgattt ttatttttgc 1980
catttagatg ttatactta tttagctttt ataaaacata agccaagcta aatcccacat 2040
aacaactctg gtattcttcc ctcatatgag cagtgathtt atttgttacc caccttagat 2100

agactaagaa agttctagtc ttgtttctcc ttctccccgc ttccctgggg tttttcctta 2160
 ccataagtat tctgggtccga gggttcagtt ccttttagtca agatgtcaca agtttaaaaa 2220
 caaaacttga gaaactacca aaggctcagg agttgtccac tttgttgaaa tccattaaat 2280
 tagagaagtc tcactaacag atgtatttaa atataggtac aacaaataat ttctttttct 2340
 ccccttcccc aaattacagt cagcatttaa agctgtttat ggcttgccat cagcattatt 2400
 ctggtaggct tgtagtggt aaaatctatt tgattttttt ttttttttt gcctcttaaa 2460
 gtctaatttt aggatggatg aattcagatg tttaccagag tgtgtatttt acataatggt 2520
 cttgattaaa aagacttggt tgtaaattat ccgttgtttt tgcatatgcc cagttgatgt 2580
 gataaaattt tcattgtctt gccatataaa gccttggtta tcaacagggtg gaatgtagat 2640
 attgtaaagc tttttgtgaa ttaaaagtcg aaaataaagc aaccacattt 2690

<210> 511

<211> 2740

<212> DNA

<213> Homo sapiens

<400> 511

atagtacttg gatgttttag aagggtttcc aagtattaca taattcctag atgttcaccc 60
 ttattacact ccaactatta aaaagggtcaa aattcagcct attttttttc attatttttag 120
 attcctgtgg ttgggatatt ttaacattga tgagaaaaat aattgagggt gatattttta 180
 caaaatcatg cggtaataag tcttgatttc atgattcaaa agaatcaata aagcctaaaa 240
 ataatagatt actttaagct gctatgtaag atatatacgg aataaattaa aaacctttgt 300
 gaattcaggt ttattatttt taacctaaaa cattctcttt ggttcattca tcccctcatg 360
 tcatgggggc tcattgggtt tccttctttg tcatatttaa gtatgatttt tcaacaaaac 420
 ttctagaagt cagcttatta tgtcaccatt catgcaaagt gctcatgcct ctgattggtc 480
 cattcactga cgtgacaatt tcaggctccta tgtttaaaaa gaaggggctg gccgggcacg 540
 atggctcgcg cctatagtcc cagcactttg ggaggccgag aggggcggtt cacgagggtca 600
 ggagattgag accatcctgg ttagcagagt gaaaccccgct ctctactaaa aatacaaata 660

aaaattggcc gggcgtggtg gcgggcgcct gtgggtcccg ctacttggga ggctgaggcg 720
ggagaatggc atgggcccgg gaggcagagc ttgcagtggg ccgagattgc gccactgcac 780
tccagcctgg gcgacagagc gagactctgt ctcaaaaaaa aaaaggaggg gggctaaata 840
tccagtgaga tgcactgagg aaaggaagca ttttgctgaa gacagcagca gcagcaaaca 900
atggtctgtt tgttgcaaac aagatgtagc ttgatttctg gtctgacata tgccatatac 960
agatattaga aacgactgtt tgaaggccac actggtcac tacaaagtaa tgtttaccaa 1020
ttgacgacag ggatttaact agattaaaaa gatcaaagtg tggtttttct ctgcttttta 1080
aaatttcact cggaatttgt agctgggcca attcaacaca ttttactttt cagtgggaatt 1140
gatttttcta atgtttcaga attttaacat atcaagaaga aaacaacgtt ctcaaagtct 1200
ggcctcttta gcatgatgta aacctataga aatgctttga aatgtgctgg tgtaagataa 1260
gagttatctt gtatgattta atcatatgca gtgttgtctc agttacgttc agggaaatgt 1320
ttctgtgtca ttcagagatg cttgatgaat taacacctcc caccctgagt gaggggttga 1380
cttgttggga gatgatttgg gcttcactgg gatctgtgac aggtgggggc tgggctgggt 1440
gtcacaaaga gaatagtggg agaaatcggg cgaaggaaga aagaagtac tggtaaaaat 1500
cattacacca taaagcacca aggaaataac tgagttaaaa taggtgaagt ttcttttttc 1560
ccccctgtaa caggagagtt ttccttatga taattattct gagacttggg cactttgttt 1620
ttgaatgtgg agctgctgaa ctcatcaga agccatttgc tgcctatcag gactttctga 1680
agaagtctt ttgcctctgc ctaccctctg gcaccctccc atggaggcac aggggaccca 1740
gagctaaagc attaccaggc catctccaaa acaccccgtg tgtgtgtgtg tgtgtgtgtg 1800
tgtgtgtgtg tgtgtgtgtg tgcactttgc agcccccgag gtggagaggc agtgtctgga 1860
tactgtgaa tgcattgccc cattggtcag ttggggacac tgttacaaat cactgaagt 1920
cctggtaaaa ctgtcaagag taacaggcct cttctgttct accctgctca cttccacggt 1980
gagttaccag cctgggcaac acagcaagac cccatctcta caaaaaaat ttttttaagt 2040
aattaaccgt ttaaattttt tcctaaagat ttaacatgat tttccctcc tatgtaaagt 2100
ttactggaga gacttgaatt acttaaatc atgttaatat gatttttttt taatccaggt 2160
cacattttaa caaagtttat tatgaaacaa atgaaatttg aactctaaaa tggctactct 2220
tggcttcctc aagtcacaat gaactttata ttttcttctg ccttaaggac taagatagtt 2280
gttttatctc agccgaatca cagagataac cactcctgca ggccccaca gctggcccaa 2340
aggggctgtc tttctgacct ggctgtgtta gcactgattg agaaatgcag gctcccaaat 2400

attgccttta ttaaaaacac aaactacaga aaatgggtta agagtatacg catttcatca 2460
aacacatata ggggaaaaaa tccttcaatt tagagttaaa taactcagct ttgtatagta 2520
gagttagcgc tccagtatct aacaatctca gaatcatctc tgaaaactgg taactatgct 2580
tccattttta attttgcct aaatatcaga tgtctttgat gtaagggtag ggaatggaga 2640
aatattttca attgtgtatt tgtattacaa agaacttgaa atttactttc ttagttgatt 2700
atattaaatg atgtatatat tatatgtggt ttataagctc 2740

<210> 512

<211> 3070

<212> DNA

<213> Homo sapiens

<400> 512

atctattcta agaaaatata ctgcaggccg ggcacagagg cttacgcctg tagtcccage 60
actttgggag gccaaggcgg gaggattgct tgagcccacg agttggagat cagcctgggc 120
aacaaaaaaaa aaagtgagac ctgtgtctac aaaaaataaa aaaataaaaa tggagtatat 180
tgaaaatata tactgtaata tgaaaagtta cacaaattaa gaatatagca tagtactgag 240
aatatgaaag caatctagtc agtatttatg aaaataaact ttggtggctg ggtgcggtag 300
ctcatgcctg tagtcgcagc actttaggag gctgacgtgg gcggatcacg aggtcagaag 360
atcaagacca tcctggctaa cacggtgaaa ccccatctct actaaaaata caaaaaaaaa 420
aaaattagcc atggtgtcag gtgcctgtag tcccagctac ttgggaggat gaggcaggag 480
aatggcatga acccaggagg caaagcttgc agtgagccga gactgcgcca ctgcactcca 540
gcctgggtga cagagcgaga ctccatctca aaaaaaaaaa aaaaacgaaa agaaaagaaa 600
ttgtggcata taagctttat aggaaatagt gcaaccagta aaacatttta tgatgtattt 660
catatgctag tgtaatgaac gcagcaaaga acatgttacg tactcgacag acaatgataa 720
aattatgaga aaccttttga aggaatacaa cagagcaaaa catctgtttt ttaaaattat 780
cattgtgtat tatgaatatt aaacaaatgt ttgtgattta tatgtgaaac aatgtctttt 840
taccgctttt ttgttttccc aaaagttgag ttaccattcc aatttgaaat ggactgtgta 900

cacgcttcat ttagtacttt tgtaaactgt gtttgtgatc tgacagcagc ctgtgaaatt 960
cataagaatc acataggatg taagtctcca tgatgtatgc caattacaga aattaggttg 1020
gtctgtgtct ttgttactaa caaaaatagc tatagcagtg gccttcagag atgtagagtc 1080
tggaanaaact tgatcttaat gtcaggttct ggcactgctt ttacagttat agccctgatg 1140
agagctatca gtagggaaaa taatttatgg agaaatttaa ttttgctaaa agagataaaa 1200
gtttatgctc ataaccctaa tgtagtTTTT atccattatg aggccacaaa ctctttgaga 1260
atctgctgaa atctctatta agaaactgcc aaagagcata cacaaaattt gcatgcaatt 1320
tcagggaagg tcttcacccc agttcccaca ctacccccta tcctccatta ttccctcaga 1380
cttagaatgt cagtcctaata agaaattatt atatctacag gttcgagaaa tggctgctac 1440
taccttaagc ggtctgctac agtgtaactt tcttaccatg gacagtccta tgcagattca 1500
ttttgagcaa ctttgcaaaa caaaactacc taagaaaaga aagcgagacc ctggttctgt 1560
aggagatacc attccttctg cagagttggg caaacgccat gctgggggtgc taggacttgg 1620
tgcatgtgtt ctttctagtc cttacgatgt tcccacctgg atgccccagc tcctcatgaa 1680
tctcagtga catctaaatg atcctcagcc tattgagatg actgtaaaaa aaccttatcc 1740
aatctccgaa ggactcacca tgacaactgg caggaaacata aacagcaatt cactgatgac 1800
caactgcttg ttctcaccca tcttcttggt tcaccatgct attatgcata gaaaggtaag 1860
tcagcaaagt tctgaattta cattggtttg gtgactgaga actagatatt tattgttttt 1920
tttctttttg ctgacattct tagatgtcag tgtttagata aagttggatg gcggggattg 1980
tttgttttta aacatggctt ttgctacggc cattggaaat gagaattttg ctgtgcctcc 2040
ttgctttagg tttaaagcag agaaaatgtg tgactgcttt tggacctttg taaatgagtg 2100
gtgtcagcct gggaatagtt agataaagga aaatacatct tattcttggt tgcctcctgg 2160
gtggggctgg gacattttgt gtggccctga ggactctggg ttctaaaagt tgtgagaact 2220
tgatctggat tcttacccc attctgttaa agaggagta cccagaagcc tttctactgg 2280
aataggaaga ataaaaattt catttattag gcttttagag ttggatgtct tgttacctaa 2340
ttgaaatttt ttctccctg atacagatga ctagtcctca cttcaggctc tttcatcaa 2400
aaattccaca ccctcaggta ccatctgtgg tggtctctg caagttttta aactgcctct 2460
gctgagctct catcattttg gtggtttctg tgtagatct cgtagtctg cattccacag 2520
cttctcagtt gccatttgat ttcccaactt gtccggaagt gttccagaa tactgatcac 2580
tttttttttt tgaggcatct gacaaagtca caaagtctca gactagaaat aattaccag 2640

tatgatcatg gcatccaaga ccagagtctc agaactcatt aagaaacagt ttacttggaa 2700
tggagaatac ccatctgtaa tacaggtcct gtcatttcat tcatctcaaa ttattttgaa 2760
ttcttcccaa atggctgctg gatttaggtg gtaatagggg ctgtgggcca taaatctgaa 2820
gccttgagaa ccttgggtct ggagagccat gaagagggaa ggaaaagagg gcaagtcctg 2880
aacctaacca atgacctgat ggattgctcg accaagacac agaagtgaag tctgtgtctg 2940
tgcacttccc acagactgga gtttttgggtg ctgaatagag ccagttgcta aaaaattggg 3000
ggtttgggtga agaaatctga ttgttgtgtg tattcaatgt gtgattttta aaataaacag 3060
caacaacaat 3070

<210> 513

<211> 2766

<212> DNA

<213> Homo sapiens

<400> 513

caagcagtc cccaggtct ctcttgc tca cctttgccc tttttattat gaaagaaaac 60
cagttccttg atggatacca ggaccatcag cctcaggcct ggaggaggag aggaggatga 120
tttgggttcg ggctgtaaga ggtgtgccac tgagaaggag ggatgctgtg agcaggctta 180
actgagctca tggttcagtg ggagttgagt gttctcatca caggctttgg tggaatgtac 240
tcttgacatc tgtccccagg agcctgggtc ccagaaacac cagctcaggc cctcaaggtc 300
tggctctgat ggttctgtgg gctacaggat tctgatctgt tagcgaggtg tgttcagaag 360
tgtgttgagg acaccagtgc aggagagcaa ccagtagaac agaaaggtct ggaagcagca 420
ttcttggcaa atcttctaga ttcccaatgc ccagacagac ctggaggtgc tgtgggcttg 480
aacatgtggg tggcctcccc tcccaggctg ccccgagctg cccaaggttt ccttgccttg 540
gtgctccttc ttgcagaggc tacacgtgcc ctctccacct gcccaggcac tgagtttctt 600
tgttgcgac accttgtctg ttgtccctct gtctctaaag atgatacagg aagccttggc 660
ccaaggtggg atgcacataa gagccccggtt cccgcctacc accgctgtgt ccgccatccc 720
gtcaagctcc atccctttgg gcagacagcc catggcacag gtcagccaga gcagcctccc 780

catgctgtcc tcgccgtcac cgggccagca ggtgcagacc ccgcagtcga tgccccctcc 840
ccccagccg tccccgcagc ccggccagcc cagctcacag cccaactcca acgtcagctc 900
tgccccctgcc ccattctcca gtagcttctt gccagcccc tcaccgcagc cctcccagag 960
cccagtgcg gcgcggaccc cacagaactt cagtgtcccc tcacctggac ctttaaacac 1020
acctgtgaac cccagctctg tcatgagccc agctggctcc agccaggctg aggagcagca 1080
gtacctggac aagctgaagc agctgtcgaa gtacatcgag cccctgcgcc gcatgatcaa 1140
caagatcgac aagaacgaag acagaaaaaa ggacctgagt aagatgaaga gccttctgga 1200
cattctgaca gaccctcga agcgggtgtcc cctgaagacc ttgcaaaagt gtgagatcgc 1260
cctggagaaa ctcaagaatg acatggcggt gccactccc ccaccgccc cggtgccacc 1320
gaccaaacag cagtacctat gccagccgct cctggatgcc gtcctggcca acatccgctc 1380
acctgtcttc aaccattccc tgtaccgcac attcgttcca gccatgaccg ccattcacgg 1440
cccacccatc acggccccag tgggtgtgcac ccggaagcgc aggcctgagg atgatgagcg 1500
gcagagcatc cccagtgtgc tccagggtga ggtggccagg ctggaccca agttcctggt 1560
aaacctggac ctttctcact gcagcaacaa tggcactgtc cacctgatct gcaagctgga 1620
tgacaaggac ctccaagtg tgccaccact ggagctcagt gtgcccgtg actatcctgc 1680
ccaaagccca ctgtggatag accggcagtg gcagtacgac gccaaccct tcctccagtc 1740
ggtgcaccgc tgcatgacct ccaggctgct gcagctcccg gacaagcact cggtcaccgc 1800
cttgcctaac acctgggccc agagcgtcca ccaggcctgc ctctcagccg cctagccaag 1860
actgcaggga tggcccgag cctcatcggg gccaaaggaca cacgcctcct gtcagacact 1920
tctaggtgtt ggcttcctta gagagcctgg ggttaggtta gctttcctgc ttttatcttc 1980
tgccttgggg acctgcaaaa cgaaatccca cacctgtaca gaactgggat aggcgagtg 2040
gagcgggttg cttggggggc gttggccgac ttcttagaga aggcctcca tgtgacttcc 2100
tcccaggagc cagatgcgat cctcaggctg ctctcaccgt ggcctgtcca cggtcaggt 2160
ccatctcagc agcgtgaggg tgcactcagg gtgttgttag agcgtctcgt gtgtgctaga 2220
cgcacccta ctcgttccta tagaacacag aggacatagg aaacccttaa aacacacatg 2280
ggattctctg gtcacagttt tgggttcagg ctacgtgctt ttgggcaggt ggagcacccc 2340
ccgaggaagc ctgcaagtcc agggcacagg ctgccttttg gagggagggc tggcccatag 2400
gtgctgctgg ctcccccca ccagctgggc ctgagccctc acggcattcc tgctgagcac 2460
cgtggggcac ccaggagca ggggcgtcag ggatcctgct gccggcacc cttgtgccgt 2520

ggcatgaggg ccgtgtcccc actgtgaagg atgaagagca aggccctcag gacccgtgtc 2580
 ctcagagcac cacacactga gcacccagag acagcgggcc tggcagcggg ccgggccatg 2640
 cagggagcgc ctcctatgt tgcctgccac tctgggcacc ggccagcacc ctctggtgag 2700
 aagaggtccc ccctttttat gtgcactacc ccaccatctg tgattataat aaatttatta 2760
 ttcctg 2766

<210> 514

<211> 2407

<212> DNA

<213> Homo sapiens

<400> 514

ttttcacttg ttaattattt tctgttctca tgattatgtg taatctttta tgcagagata 60
 tcacattaga tatacttttc cccttatatt attacattat aagcatttcc atatattagt 120
 actcatgggtt actgttttaa atagctgcct attatgctgt ttgttgatgt ctcagcatga 180
 ctttgtttat atgagaggta ttaagcttat gctgtaaaca cttttattaa tctgagattt 240
 tgtatgctgt tttgttagag gaaacattct attaatgggtg gcatatttca agtaaaagca 300
 tgtgcttttt atttttaaat cgcttatggc aaaaattcat tttcagttca ataaagtatg 360
 tgtttgtaag ctttgtcatc tgccccttga ctggtagatg tgcaggctaa ggagttttta 420
 gtgtttgggtt ttgcttttgg tagtttgtgtg tgtgtatgtg tgtgtgtgtg tgtgcgtttc 480
 ttttcagaag gggcgggtaa tgtcttctgt tggaacatgc actccaccct ctttgataag 540
 gcttgtggta agatttgcac cactacccat gacagtcac ctcatagcac taagcacaca 600
 gctcttagct ccataatga tgtgtggagg gtggagtgtg ttgcagccat attcaccttt 660
 catttgtgtg tttgatgtgg catttatatt aagtaggagt aatttttttt ctgatttttt 720
 tttcttgtgt caccagtgc cctattccat tcttccatcg ctgtgctcct gtgaacattt 780
 cctgctatgc caagtttgca gaggccctga tcaccttgt cagtggcaat agtgtcttac 840
 acaggctgat tagtggagta atgaccagca aagaaattat attgggactt tgcttgttat 900
 cactagtctt atccatgatt ttgatgggtg taatcaggta tatatcaaga gtacttgtgt 960

ggatcttaac gattctggtc atactcggtt cacttggagg cacaggtgta ctatggtggc 1020
 tgtatgcaaa gcaaagaagg tctcccaaag aaactgttac tcctgagcag cttcagatag 1080
 ctgaagacaa tcttcgggcc ctctcattt atgccatttc agctacagtg ttcacagtga 1140
 tcttattcct gataatgttg gttatgcgca aacgtgttgc tcttaccatc gccttggttc 1200
 acgtagctgg caaggtcttc attcattgc cactgctagt cttccaacce ttctggactt 1260
 tctttgctct tgtcttgttt tgggtgtact ggatcatgac acttcttttt cttggcacta 1320
 ccggcagtcc tggtcagaat gagcaaggct ttgtggagtt caaaatttct gggcctctgc 1380
 agtacatgtg gtggtaccat gtggtgggcc tgatttggat cagtgaattt attctagcat 1440
 gtcagcagat gacagtggca ggagctgtgg taacatacta ttttactagg gataaaagga 1500
 atttgccatt tacacctatt ttggcatcag taaatcgctt tattegttac cacctaggta 1560
 cgggtggcaaa aggatctttc attatcacat tagtcaaaat tccgcgaatg atccttatgt 1620
 atattcacag tcagctcaaa ggaaaggaaa atgcttgtgc acgatgtgtg ctgaaatctt 1680
 gcatttgttg cctttggtgt cttgaaaagt gcctaaatta tttaatcag aatgcataca 1740
 cagccacagc tatcaacagc accaacttct gcacctcagc aaaggatgcc tttgtcattc 1800
 tgggtggagaa tgctttgcga gtggctacca tcaacacagt aggagatttt atgttattcc 1860
 ttggcaaggt gctgatagtc tgcagcacag gtttagctgg gattatgctg ctgactacc 1920
 agcaggacta cacagtatgg gtgctgcctc tgatcatcgt ctgcctcttt gctttcctag 1980
 tcgctcattg cttcctgtct atttatgaaa tggtagtgga tgtattattc ttgtgttttg 2040
 ccattgatac aaaatacaat gatgggagcc ctggcagaga attctatatg gataaagtgc 2100
 tgatggagtt tgtggaaaac agtaggaaag caatgaaaga agctggtaag ggaggcgtcg 2160
 ctgattccag agagctaaag ccgatgctga agaaaagggtg actggtctca tgagccctga 2220
 agaatgaact cagaggaggt tgtttacatg aggttctccc actcaccagc tgttgagagt 2280
 ctgcgattat gaagagcagg atcttattac ttcaatgaaa gcatgtaaca agtttctcaa 2340
 accaccaaca gccaagtgga tttggtacag tgcggctgtc taataaataa tcaaaagcat 2400
 ttgatag 2407

<210> 515

<211> 2186

<212> DNA

<213> Homo sapiens

<400> 515

ctccgcgcgc	ctgcccacgc	gctccggtac	tcgctgctcg	cggctggccg	gctcgggatt	60
ccgggctttc	ttcccagac	cgcgtccccc	agctgggccc	aaggtggacg	ctcaggggct	120
ggaggctcag	cggaatcccc	tgcgttcagt	agccccgctc	tcccctgtcc	cgaaggatta	180
ctctgcccc	cagcggttcc	agtgccctca	aagcaatctg	tctctgaagt	actggctatc	240
ttctgagcgt	gtgccagaag	atccagcttt	gttgaaaagc	gaagccgtta	gtcccttaat	300
acaaaggaga	caaattgatt	tatgcctggg	gcaccatcac	caaaagaaga	ggaaatggat	360
gcaagccttc	ccagaacaac	agaaagagtc	tcgctctggt	gccaggctga	agtgcctatg	420
tgtgatctcg	gctcactgca	acctccgctt	tctgggttcg	ggcaattctc	atgcctcggc	480
ctcccagagta	gctgggattg	caggcacatg	ccaccacgcc	cagctaattt	ttgtaatctt	540
ggtggagatg	gggtttcacc	atgttggcca	ggctgggtctt	gaactcctga	cctcagataa	600
tccgccagcc	tcggcctccc	aaagtgtctg	gattacaggt	gtgagccact	gtgctcagcc	660
aaaaaaactt	gcattttaaa	gaaagttttc	cagaactggg	tttgttccat	tcaataagta	720
gattgagtta	caactatgca	cttagcttca	tgtgacactg	aagggaatat	gaagaagaaa	780
gaagacaaat	tctgcttata	ctctgatagg	acgacctctg	ctattttcct	tctgaagctt	840
tgcagagagc	agtgaattgt	aatgaaagga	gatttgggag	taaagactcc	gtgaggtatt	900
gaagtctcta	ggggaacctc	attatagcat	tcctcttccc	agcctggatt	ctgaacaatt	960
tgagaaataa	aaagcaaattg	tgaagcacac	tgaggccaaa	gtatcacctt	tagaaccagt	1020
aaagatgaat	tggaattcca	ggcatggcag	gccaaggcag	acatcatcct	tagagacaga	1080
gtccctggag	gggaagagga	aggagataaa	gctgaagcaa	gcaagccagg	gcaagtcact	1140
ttgacacccc	aggacagaa	agggaccagg	agtatgggtca	gctgcaacta	ggaactgggg	1200
aaagatgttc	ccgcatcact	ggttttttct	gctcctcaga	tgcgtgacgt	tggatgagtc	1260
cattaatccc	tctatccatt	atcatctttt	ctaaaccaa	ggattttact	agatcatctc	1320
tgaaatttct	tccaggtcta	cagtgggtatg	attatataaa	ttactagacc	catagtaaat	1380
catctaagag	ctcatatgac	cttattttaga	aaggaaatta	caaactcttt	acacttggat	1440
ctggaattgc	ttttgtaaat	gtgaagctac	tatgagttga	attacacttt	tgtttcagag	1500

attgacttta tgaagatcct taggaagttt taaagttgaa taagattctt cttcttacct 1560
 ttaatcatca cttttacatc tcatttgtgg agaatacaaaa gtcactggaa tcaaaagtca 1620
 ctgacccaca aagtgtcttc ctcttgcaag atgggcaaat ggctccacaa caacataaaa 1680
 cccagcatca cactgacggg tacagatctg tttctgccgg gttgagtctc ctggccacca 1740
 gaatcccaga gctctcacc aggctgagat gcaaaagcca caagcacagt ggggagagag 1800
 gaaaataaga gaaggagccc atgactttga gatgtgaaat aaaggagaac caacaatact 1860
 ctgtgcctac tcatgagcac ctcggtgtac tccagaactt tcatttcaaa aagttaaata 1920
 ggaacctttg tccagagatt ggctcagatg ttctcattag atcttagctt gaagcctctt 1980
 ctgccagttc ctccctgttt ttatagtaag tctcataagg catggtcctg gacccacagc 2040
 cctgtatcat atggaaaaat gatgcaggcc gggcatgggtg gctcatgcct gtaatcccag 2100
 cactttggga agccggggcg ggtggatcat ttgaggtcag gagttcagga ccagcctggc 2160
 caacatgatg aaaccccatc tctact 2186

<210> 516

<211> 2198

<212> DNA

<213> Homo sapiens

<400> 516

aagagcctca aattggaggc aaaacaaatg cttattagca gtagaataga taaataaatt 60
 atggtgtatt tcatacaatg gaatacttta cagcaacaaa aaaatgaaga aactgcatat 120
 gcttgcagca acataaaaaa actttaaaaa cataatataa aggtcaaaga cagagacatt 180
 aaagataaca tatgatctca tttatatgaa attcaaaact aaccaaatt aaattatcat 240
 atttagcaat gcacacatag gtaattgtat tagtccgttt ttcacactgc tgataaagac 300
 atacctgaga ctggacaatt taaaaagaa agaggtttat tggacttaca gttccacatt 360
 gctggggagg tttcacaatc atggcagaag gcaaggagga gcaagtcaca tcttacatgg 420
 atggcagcag tcaaagagca agcttatgca aagaaactcc catttttaa accatcagat 480
 ctcgtaagac ccattcacta tcacaagaac agcacaggaa agacctgtcc ccatgattca 540

gtcatctccc actgggtccc ttccacaaca tgtgggaatt atgggagcta caggatgaga 600
tctggggggg ggacacagat ccaaaccata tcagtgacaa aactctaaag caaagcagga 660
aatcactttt tataagagtc cagattgaaa tatctttgtg gggagaggga ggagatgtac 720
agagagaggc tggcagagtc tcttttttgc tctaggtggc aggttcaagg gtgttcagtt 780
tatttttgaa gcagtgcaga gaaggagacc agactagaaa cagggaggtg atcaactggg 840
tcttggttac atacagaaaa cagcagaggc agctgaaaga tccttctctg tgttcagagc 900
catcatctat cattagcatc cagtgatagc aggaacattg atgccaacat ttttcaaagt 960
ctgcagaaat gacttggccc ctccacagag ccttgtgagt cagttcagaa gaaatcaata 1020
tccatcttct gttctcttct tgcctgccaa ggggacctgg aatccttaag ttttgctcct 1080
ggtttccac ttcagtatcc atccaaagag tctcctcctg cttgttttca ttctttctgc 1140
ccttccttgt cccccagagt ggagatctga agtgcataat accccactat gcggtgatgt 1200
tagccccagg gcacagctga acacagcatt cctcaggaga ggattcatcc tctatatagg 1260
gaacactgga gatattgctg ccctaactcc aaagaactaa tcaccaaagc ttgggacttt 1320
gggcccattg taggcaactg gaagagctat ctggggcaaa gagtgtaact caaacatcat 1380
cataactatc tgacagactt taaggaggcc aatccaatgt tctcaaact ggctgcatca 1440
tgaatcactc aaggaattta ttttttatcc agatttctga accccaacc ccagagattc 1500
tgacttactg ggttctgggt agaacatgga aatctgtatt tatagcaact caccagcg 1560
attcatccag gtggctctgg tgcaactctt caatgggctg gtacttagga gcatccccgg 1620
gggtcagagc tcaagttcct catggccagg aactgtgtag gcctccttg cttacatcta 1680
agtggtttcc cctgggtccaa ctggaacacg aatgttatct cctgagtcca actttattgc 1740
ttcttctaac catctagata tctgctagta aaactcaaga catctctaatt tcttctctt 1800
tccactagag atttaaagtc atttttttca cataaagatg gactttaatc taatgtagtt 1860
atgcatgcat ataaatgccc aaacaagagc caagttggga aatatggcca tgtgttgatg 1920
tgatgtcttg gaacaaggaa ggacacctct gcagagggtg tttgagggt ataccacat 1980
gctgatgtga taccttatca aagcactcta gagcagccat tcttaaatat tttggcctca 2040
aaaagaccaa acaagtcctt tatgattgct tatgtgtatt gtatgcattg atatttcat 2100
ggatatttat aatcattca tgttaaaaaa taaaactgaa aaaatatttg tttataaatc 2160
attacaaat aacaataata aactcactat attaacat 2198

<210> 517

<211> 2250

<212> DNA

<213> Homo sapiens

<400> 517

```
atattacagc cctagtagct taaacgacag atgtctgttg tctcgcagca ctggaggccg      60
ccggcaggaa acctgaggtc agggagtcag cggggctggt tccttctgag gcctggagga     120
agactgctcc aggcctgcct tctactgctg ggggtgccgg cagtctttgg cttccatacc     180
ttgtcatacc tcaccctggt ccccgcttt gtcttcacgt ggccttttcc ccctgtgtgt     240
gtctgtgtgc aaatttcct ttttatagag atgcagtcac atgggattag ggctccaccc     300
tgctccagta tggccttacc tgaagtaatt acgtctacag caaccttggt tccaaatacg     360
gtcacattct gaggtcctgc agttcagtggt taacatgtga attttgggga tacacaactg     420
aaccataaca caaactgtga attcttagca ccttaagttg tagaagagaa cagagccact     480
cctccagcca ttgctccaat ggctctgggt aagttgtagc tcagtagaga gcatgaatgc     540
tctcaaaaaa gcactacagt tgtcctcggt atccacaggg ggttgcttcc tggatccct     600
cagacaccaa aatgcacaga cattcaagtc cctggtaaaa aatggtgtag catttatgta     660
taacatatgc acatcctccc gtgtacttta catcatctct acattacttg taatacctaa     720
taaagtgtag atgctatgga gatagttgat atactgtatt gtttttaata tttatgttat     780
tttttattgt ttgggttttt ttccccgaa tatttttgggt ccatggatgt ggaaccgcga     840
gatgccaggg ccacctgtaa cttgggggag tgacttggtg gtggtgggta gcgttgcaga     900
cgccatcttg ctggactttg tcctgtggca gtaagctctc tgatgtgacc ctgtttgttc     960
ctttaggaga cgttgatcca gcagcacgtg tcatttcatt aggtcctgta tctgatgttg    1020
tggttagtgg agtcctccag caattgaatg agagcagtggt acacatctca gcaggtcggt    1080
ctagagagtt gcgaatctaa acctgggaca ggctggggcc aggaggcaga aacaccggcc    1140
tctgccaaca ccggaacaag ccgacgcttc cagacaaggc ggaaaaggcc ttttgtaatg    1200
gaaatctcgc gagggttaat cttctcttga gaatggcagt caagaaatga gatggttcac    1260
ttgactactg agcagttaca ccaaggagag cgtgaaggag atgattgagc cagagaagaa    1320
```

acgggttgatg atggtaatgg tgtgggggaa atgaacttga gctttaaact tgatttgagt 1380
 ttcagtgtct ctgaattgaa catcccacgt tggaagaaga tacatttggg ggctccagga 1440
 ctacagtaga aaagtataga gcaagcagga aaatcttcta gtaaaactta catgcaggac 1500
 aacaaaatga tgaaagatat ccaaatacca gataatccac caggaaggct tttgtttagg 1560
 aatttgtttc aagaggaaca agggatgagg gagaaaaatc cgttttatcc atcagagtca 1620
 gtgctataaa attgcctatt aaggtaaaag aaaaatgtgg agactatitt actatacaga 1680
 gagcattaat tcagatggct tagaaaagtg ataccagccc aagaacaggg atctaggtga 1740
 gccatttgta agtatcattg aaaacaaaac atgccgtca acatgtcaca gaaaacgaac 1800
 gaaggacaac aagaagtgga tgagaatatt ttgttgacct tcatgggttt acagcctctg 1860
 tctctaaaca aagtatggaa acaagtagag cttttatitt gcttttgitt ttgttttgitt 1920
 ttttttttgt tttccccac taaatagaaa tgagggtcct tagtctgttt ctgacaatct 1980
 gttaatttct taggacagct gtctttgggt tgctttccag caggcgtagt atatttagtc 2040
 ggagagcaca tctgtatgcg acaacttgat tacatctttt tttctagcta ttttgcatit 2100
 tttcttttac catgtttcag tttctgcatg tagatttaaa taaaaaaca aacttgtaaa 2160
 gttgtaacat ttcacatgga aatgctgccc aatcttcacc agcttcagaa atctgacctt 2220
 tgccgatgct gcaataaagt gttgtaattt 2250

<210> 518

<211> 1750

<212> DNA

<213> Homo sapiens

<400> 518

agcaccatga gccgccagct tctgcctgta ctgctgctgc tgctgctcag ggcttcgtgc 60
 ccatggggtc aggaacaggg agcgaggagc ccctcggagg agcctccaga ggaggaaatc 120
 cccaaggagg atgggatctt ggtgctgagc cgccacaccc tgggcctggc cctgcgggag 180
 caccctgccc tgctggtgga attctatgcc ccgtgggtgtg ggcaactgcca ggccctggcc 240
 cccgagtaca gcaaggcagc tgccgtgctc gcggccgagt caatggtggt cagctgggcc 300

aaggtggatg ggccccgcga gcgcgagctg gctgaggagt ttggtgtgac ggagtaccct 360
acgctcaagt tcttccgcaa tgggaaccgc acgcacccgg aggagtacac aggtgagggg 420
caggccggtc attggggggg cggtggccag gccgaggctg aggggggactc cctgcaggac 480
cacgggacgc tgagggcatt gccgagtggc tgcgacggcg ggtggggccc agtgccatgc 540
ggctggagga cgaggcggcc gcccaggcgc tgatcgggtg ccgggacctg gtggtcattg 600
gcttcttcca ggacctgcag gacgaggacg tggccacctt cttggccttg gcccaggacg 660
ccctggacat gacctttggc ctcacagacc ggccgcggct ctttcagcag tttggcctca 720
ccaaggacac tgttggttctc ttcaagaagt ttgatgaggg gcgggcagac ttccccgtgg 780
acgaggagct tggcctggac ctgggggacg tgtcgcgctt cctggtcaca cacagcatgc 840
gcctggtcac ggagttcaac agccagacgt ctgccaagat cttcgcggcc aggatcctca 900
accacctgct gctgtttgtc aaccagacgc tggctgcgca ccgggagctc ctagcgggct 960
ttggggaggc agtcccccgc ttccgggggc aggtgctgtt cgtggtggtg gacgtggcgg 1020
ccgacaatga gcacgtgctg cagtactttg gactcaaggc tgaggcagcc cccactctgc 1080
gcttggtaa ccttgaaacc actaagaagt atgcgcctgt ggatgggggc cctgtcaccg 1140
cagcgtccat cactgctttc tgccatgcag tcctcaacgg ccaagtcaag ccctatctcc 1200
tgagccagga gataccccct gattgggacg agcggccagt taagaccctc gtgggcaaga 1260
atthttgagca ggtggctttt gacgaaacca agaattgttt tgtcaagttc tatgccccgt 1320
ggtgcacca ctgcaaggag atggccccctg cctgggaggc attggctgag aagtaccaag 1380
accacgagga catcatcatt gctgagctgg atgccacagc caacgagctg gatgccttcg 1440
ctgtgcacgg ctccctact ctcaagtact tcccagcagg gccaggtcgg aaggtgattg 1500
aataaaaag caccaggac ctggagactt tctccaagtt cctggacaac gggggcgtgc 1560
tgccacagga ggagcccccg gaggagccag cagccccgtt cccggagcca ccggccaact 1620
ccactatggg gtccaaggag gaactgtagc tgccccctg tcacccccgc catcactgct 1680
ggacaggagc caccctcttg ggtaccagag ggagctgtgc attgtgaata aagagtgagc 1740
ttggttctgg 1750

<210> 519

<211> 1793

<212> DNA

<213> Homo sapiens

<400> 519

```
catataaatt attaaaatgc acatttaaatt ctatggagtg tatctgctta aagacatact    60
acttgtgttt aagagccatg actatttgaa aacaggaaaa ccaaatttta gtaaaatttc    120
catatattga gaccactgat tctgtgtgag ataattagga aagaagattt attgtttacc    180
cttgcaagtgt ttatggggggg aaaaggtatt tacagaatta ctgttgctag cgagaatata    240
cagtaaagtt taaaacattt tggagaattg attttgattc ttaaaatgtg tctttttgca    300
acatatgctc tggttacctt taaatacatt aatttggccc ttgaaaacat tcacatccta    360
ttctttgtta gccttatttt tccagtcctt gttaactctc tcagtgtctgg ataataaacc    420
tgcatttctt ttaaaacatt tgttcagttt cggcatcagt gtcttcccc agcactccct    480
taatctaaat tagtaacatt ttactgtatg aaaaatagtt gctgttaact aaaaattcaa    540
taggtgagtt agacatggct tttcaagtag gattttcagt ggcttcagat tccatcatac    600
acaagtgtat gttttttctg tgtaagtttt ttccgtgtaa gttttttccg tgctcaaccg    660
taagtgtca accatcttct cccacttta gtctgctatg tcaaaaaact gcatcaagct    720
tttgtgtgaa gatcctgttt tcgcagaata tattaaatgt atcctaattg atgaaagaac    780
ttttttaaac aacaacattg tctacacgtt catgacacat ttccttctaa aggttcaaag    840
tcaagtgttt tctgaagcaa actgtgccaa tttgatcagc actcttatta caaacttgat    900
aagccagtat cagaacctac agtctgattt ctccaaccga gttgaaattt ccaaagcaag    960
tgcttcttta aatggggtaa gaactatgca gaggcggcgg cacacacttt taaactgtcc   1020
ttcagttaac tgtgtggcct tcatatgatt ttactctcgt aactttaact tactgattca   1080
aactcttaag ccatgtgcga caaaaaaaca agttttaaat acacgtttac tatgccttgt   1140
atgtacacag cacactctat caccttggaa gctacaagct ggtatcatta aatgctgaaa   1200
ggtaataaag ggaacatctt agtgggtctta tctctagttg ggtatatttt tggaaacaat   1260
acttgtgatg tttctattac tgcctatggc tcctatgtaa ctgaaacaat taatgatcta   1320
ctgatttaaa aaaggcagtt aaatctagag cattagttgc cttgtgcaga ctcccatgac   1380
agccatgtcc tagaataatg gaacactctg gaaatgggct agaatgttga gcagcagcct   1440
cccaaatac agtatgcata aaagccaaaa cagatgacag agctcagtaa ggaagacctt   1500
```

actattttgtg acatccatca gaatttttaac ttgagaaact gatttcaagg tttgttttta 1560
aaattcttat atttcctttt ccatttttca gaaaacacta tttcaggctt tggctctgact 1620
tactggtttg tgggcataaa ataatgctat tagtgacttt aagaactaat gaggctgggc 1680
acggtggctc atgcctgcaa tccaagcatt ttgggaggtc gaggccggtg gataacgagg 1740
tcaggagatt gagaccatct caatggccaa catggtgaaa ccctgtctct act 1793

<210> 520

<211> 1684

<212> DNA

<213> Homo sapiens

<400> 520

agtgagcaac agtcttactg caaagcagga gcacaacccg tctctttgtc tccgtgggtca 60
aatcaattac ttcttagaaa gtctaatttt ttccaatg accatgtaca agagcaaacg 120
cagacatcag agatatatca acatggcagg agagcccaaa ccatacagac caaacctgg 180
aaacaagagg cccctttctg cactttacag acttgaatca aaggaacctt tcctgtctgt 240
tggcggttat gtctttgact atgattacta cagagatgat ttctacaatc ggttatttga 300
ttaccacggg cgtgtgcctc cacctccccg tgcagtaatt ccgctgaagc gtcccagagt 360
ggcagtcaca acgactcgca gggggaaagg agtcttttcc atgaaagggtg gatcgagatc 420
tactgccagt ggggtcaacag gttctaaatt gaaatcagat gagttacaga ccatcaagaa 480
agaattaacc cagatcaaaa ctaaaattga ctccttgcta gggcgcctgg agaagattga 540
gaaacagcag aaggcggagg cagaagctca gaagaagcaa ttggaagaga gtctagtgt 600
gatccaagag gaatgtgtgt cagagattgc agatcactct acagaggagc ctgctgaagg 660
agggccagat gccgatggag aagagatgac agatgggata gaggaggact tcgatgaaga 720
tgggggtcat gagctgtttc tacagataaa gtgatctgaa ataacgcatg atgccacaaa 780
gcagaaaaga gaaactgtga caacccccag aaatgtgaaa ggaggtttct tactggacag 840
cagcatcttt ggttcaattt atataaaaac ccaaataaat aaaatggaca gtattgtctca 900
gttttagaaa ttccatttct tctatgtttt aagctgtaca attgtcaggt ttttatggtt 960

taaattgtaa atgtgttttc ccctttgcta attatgtttt ttttttcagt cttaaaatgt 1020
 gaaaggcatt tatgaatggg aagggaaca ctatatacaa atgtatattt gtaaaagcta 1080
 tttttatgat tagcatgttt cactgttgat catatataaa gtcaggtgat attgcaattc 1140
 tgtatttaaa gcttatttcc aacaatgtca tgtaagaaaa gatgcatctt atgctagttt 1200
 ttataattta ttataattt atagttttaa gtacttcaga tcataatgat aaaataacttg 1260
 aaaaagtat atttctgccc tgtataagca ccctttttat taataaagaa tgcagatatt 1320
 tcagatgtga tataatagtt aaagaactgt tggtttgatc tgtgattaag ttgagcatgc 1380
 tccgctctac tgaactaaat gatccaatta ttacttcagt ctgggtatga gattccatgg 1440
 acaagtaagg actagattgc caaggaaaag actgtcttgc ccttgatcc aaaagtttaa 1500
 attagtgcac acatcatgtc atttcacctc ctgttcctag gaactctcca ttcccaagca 1560
 ttgccagtgt ttccagata atcttagctg ttgtcttggt ctgtggaaat ggaagaaacc 1620
 atcttcacag actgtaggag aattcaacat ataatttctt aataaatact gtttctttta 1680
 aaac 1684

<210> 521

<211> 1563

<212> DNA

<213> Homo sapiens

<400> 521

agccctctgc ctcccagctc cccgccagcc caacagctct ccttctctgc cagtggcctc 60
 ctgaacatcc tctacctgca catgcctgac tgcccgggtat ccctgctcca gtggctgttc 120
 cagctgctga catggcctcc agaaacatct ttgggagcct ttggtcttct gtgggatctc 180
 attgtggatg gaatcttcct tcagcctgac gaagacaagc acctgtggtg cccctcactg 240
 caagaagtca gggaggcatt ccacagcctg ggtgcccaca gtcctgccct gtaccctctg 300
 gggccctttt ggcacggtgg cagggtgctt ccaggcgagg ctggcctgaa tgagaatgag 360
 gagcaggacg ctccccaaga gattgccttg gacatcagcc tgggccacat ctacaagttt 420
 ctggcgctgt gtgccaggc ccagccgggg gcctacactg atgagaacct catgggactg 480

attgagctgc tgtgccgcac cagcctggac gtggggctcc gcctgctgcc caaagttgac 540
 ctccagcagc ttctcctctt gtccttgag aacatccggg agtggccagg gaagctccag 600
 gaactgtgct gcacctgag ctgggtgtct gaccaccacc acaacctgct ggccctcgtg 660
 cagttcttcc cagacatgac ctcccggagc aggcggcttc gaagccagct cagccttgtg 720
 gtcattgctc gaatgctggg ccagcaggag atgctccctc tctggcaaga gaagaccag 780
 ctgtcctcgc tcagccggct cctgggcctc atgaggccat catctctcag gcaatacctg 840
 gactctgtgc ccttgccacc ctgccaggag caacagccaa aggctagtgc cgagctagac 900
 cacaaggcct gctacctgtg ccacagcttg ctgatgctgg ccggggtagt tgtagctgc 960
 caggacatca ctccagacca gtggggcgag ctgcagctgc tgtgcatgca gttggaccgc 1020
 cacatcagca cgcagatccg ggagagcccc caggccatgc accgcacat gctcaaggac 1080
 ctggctaccc agacctacat ccgttggcag gagctgctga cccactgcca gcccaggcc 1140
 cagtatttca gcccctggaa agacatctaa agggacaggg tcagggcagc ccagggtcc 1200
 tggcttcagc aggaagtga caggctcagg gaactggagg aagcgaagca tcaaggccag 1260
 aggaggccac atgctgacca gcctgatgag gcaagagcct gccctgcca ccgccccgac 1320
 ccctctctc tctgcaagag cctgcctctg ccaccgcccc gacccctct cctctcagca 1380
 agggatgggc ctctctgcct cgcccccccc tcagccctcc tcccagccat ctctcttcc 1440
 ctaaggcctc tgtctccata gctctggttt ccctgggcct cagtcctccc caccctcctt 1500
 cctctgtctc cctgtcacta atgtgagggt tctttgtgca cattaaagtc ttctttcagc 1560
 atc 1563

<210> 522

<211> 1967

<212> DNA

<213> Homo sapiens

<400> 522

gctgatgcat cgcagtgtcc acatatgcag ggaggctggt ttcctaggaa gcctcccaat 60
 gaggaaattg ttgggaatgt gctgcaaggc gctgcctcgc tctggagcca gacgagaggc 120

cggagcatcc gccccaacat ggctggctgt gtgagcctca ggaacgctgg cagctctgca 180
agactctctg ccatctgcaa aatgtggccc aaaaactact taaaaattaa tcatatcaaa 240
acaagagcat ccatgaacca acttctgaga attgctgttg ctgagaaagg cctagtgagc 300
ccctgtttcc tcaggccacc ttctctttcc tccattgcc aagggtcct gtcgcccccg 360
tctgcgttct cctgcctggc gctctgtcac ctctgtgga ggccccacgt gttcatctga 420
gggctgctgc tgcccttcca gtattatcca cacctgccat tattactggg tcttgctctc 480
tgacaaaggg gctacagcgc tccttctggg tacacatgca gccctcctgc ctttgctcaa 540
ggaccgcacc tcaacagggc acctgctctc atctggccat cgcctcggca taggtagctc 600
aagatagatg ttcagcccca agcctcatgg ctgactaacc ctgtggaact taaaagttca 660
aagacaggga tgcctggatt ctgtctctgc ctctgcacgt gtgtctgtgc aggcattcca 720
gctgaccggc cagcttcccg ctggtggagg tgggaggcat aggctgcttc tacacgcccc 780
aagcctaccc actacagagt tacttgagcgt cacacatgct gactaaggga ggagagcaac 840
tccaatcaaa cgaagctaag gaagatagca cacaactgg caagaaattc ctgagagtct 900
caccctgtta ccagactgg agtgaactgg cacaatctcg gtcactgtc acctccacct 960
cccaggttca agacattctc ctgcctcagc ctctgagta gctgggatta cagaggagga 1020
aatgagctg cagaaggatc aatgacctg cctgagggtgc cctatctgtt ggcacaggcc 1080
agagcacatg gtggatgcag gggcaccccc ttcccttctc ctccctccg gctctttgct 1140
gacaggattc tctcttgctt tctctgatgg tacctgtgct acgtgccaca tcctttccct 1200
caatgaattt caggcagtgg aaggggccgc agaagttcct tgactcatga ggcgaggcat 1260
tcagcggcct cgtgacacct cccaggatct gcagtcattg ggctgcactt gccaatagca 1320
acacctggca aaaatagcta agaagcagag cggcctgggc tcaggagctg agcaaccct 1380
gactggccag atggagactg tgttgagctc tgccaagcc ctgtgatcct ggaaaacagt 1440
gaagttaagg agccatctgc attctaggga atggccact gcaaaaaata gccttcctta 1500
taggacgtag aggactcatg atgtccctc atttatgatg agccaacaca cagcccttcc 1560
aaattccgat tctttgcttc ataactgatg agctgttttg ttccactgg tcaatcgga 1620
caacattctt gctaaccaga ttttggttca gctcttctcc ctcccatgt acctgcctg 1680
tgtcctgtcc tcctctgag ccagcacaca cccctcctta gtagtcctc ctgcagcagg 1740
ctgacctgg actctccctg atccattgtc caaatatct accctttcac cctacatcct 1800
cacaccccat tctttctagt tttgttcatt cctccctgtg aaagatgaac cctctttgcc 1860

taaccccgga cctgcttgca gactgctatg atggccagag tgtccccct actgcaagag 1920
tcccttctgt cccttgcaac atcttttaaa taaaatctct ctttacc 1967

<210> 523

<211> 2747

<212> DNA

<213> Homo sapiens

<400> 523

attttgagtt gattttcaca tagaggtggg aggctagttt cattcctctg catatgaata 60
tccagttttc ccagtatcat ctattgaaga tactgtcctt tccccaaggg atctctctgg 120
gatcttttac cttagtgcct ggtggagttc ctggaggtaa agcccacaga agtgtgggtc 180
tcgcacctcc tgagactgct tccccgagtt tctcactctc actagtccac accgagcatc 240
cagcaccagc ttatggctct ggcagtttct gctccaggtc tatagtgagc gagagctgct 300
actttttact tgggcattca ttcaaagtgt tgaagaataa cagcctctac catcccttat 360
tactgggtc atcagctgtc ccaggttttg ctcttctagg aaattgacaa tggcccttca 420
gctatgctag gtctataatg ggaagtgtca cagttcggta tttctgttat gggtgccttt 480
ttacatctgc gacctggaca gttttgcttt ttgtttatct caacttcagt gaagtgactc 540
agccacttaa gaatgtgcc gtcaaggggt ctgggcccc aaggaccatc ccaaaaaaat 600
tctatccccg tttcactcga ggcccaagtc gagtgtcga gccacagttc aaagcaaaca 660
aaattgacga tgtgatagac agtcgtgttg aagatccaga agaaggccac ttgaaactct 720
cttctgaatt aggtatgatt tttaatgaac gcgatcaaga gttgagagac ttgggctatc 780
agaaacatgc ttttaatatg cttatcagtg accgcttggg ctaccacaga gatgtgccag 840
acacaaggaa tgcagcatgt aaagaaaagt tctaccacc tgacctgcca gctgctagt 900
ttgttatctg tttctataat gaagcgtttt ctgccttgct tcggacagtg cacagtgtca 960
tagaccgcac gccagcacac ctgcttcag agatcatcct tgtggatgat gatagtgact 1020
ttgatgattt gaaaggagaa ctagatgaat atgtccaaaa atacctcct ggaaaaatta 1080
aagtcataag aaatacaaag cgtgaggggt tgattcgagg gagaatgatt ggcgcgggccc 1140

acgcgacagg agaagtcctt gtgttcctgg acagccactg tgaagtgaat gtgatgtggc 1200
tgcagccctt gctggccgcc atccgtgagg accggcacac cgtgggtgtgc ccagtgattg 1260
acatcatcag cgccgacacg ctggcctaca gctcgtcccc tgtcgtccgc ggagggttca 1320
actggggact gcacttcaaa tgggatcttg tccccctttc tgagctagga cgagcggagg 1380
gagccactgc accaataaag tcaccaacaa tggctggagg tttgtttgcc atgaacagac 1440
agtatttcca tgaacttga cagtatgata gtggcatgga tatctgggga ggagaaaatt 1500
tggaaatata atttcggatc tggatgtgtg gcggtaagct cttcatcatc ctttgctcta 1560
gagtaggaca cttttccga aaaaggcgac catatggatc tcccgaaggc caggacacca 1620
tgacacacaa ctctttgcgg ctggcacatg tctggttgga tgaatacaag gagcagtatt 1680
tttccttaag acctgacctg aagacgaaaa gctatggcaa tatcagtga cgtgtggaac 1740
tgagaaagaa gttgggctgt aaatcattta aatggtatit ggataatgta taccagaga 1800
tgcagatata tgggtccac gccaaacccc aacaacccat ttttgtcaat agagggccaa 1860
aacgacccaa agtccttcaa cgtggaaggc tctatcacct ccagaccaac aaatgcctgg 1920
tggcccaggg ccgccaagt cagaaggag gtctcgtggt gcttaaggcc tgtgactaca 1980
gtgacccaaa tcagatctgg atctataatg aagagcatga attggtttta aatagtctcc 2040
tttgtctaga tatgtcagag actcgctcat cagacccgcc acggctcatg aaatgccacg 2100
ggtcaggagg atcccagcag tggacctttg ggaaaaacaa tcggctatac cagggtgtcg 2160
ttggacagt cctgagagca gtggatcccc tgggtcagaa gggctctgtc gccatggcga 2220
tctgcgatgg ctctcttca cagcagtggc atttgaagg ttaaggtgga tgctgtggcg 2280
ggaacgttgc ttcacaggc gttgcctccg gtgtggagtt tggggcttta ggaaagcctg 2340
ggttgggtgg agcagaacca tcttgagaa gatgacagtt ccctgtctc ccggagatgc 2400
ctgggtgtgt tagcagaggt gacacgtgtc tgacagagac gggagctctg agtgtccacg 2460
ggtgaagaag tgagtgtcca cgggtgaaga agtgagtatg tttcacctgg acattaaggt 2520
gatgtttgag ctgctgttaa ggaatttctt gcttatagag gcaaaccaca gtatcatttt 2580
aactctagaa ttgggcttgt acagaaggat aaaaccagg aaaatggata tttctattca 2640
gatttattta tgcctctttt taatcccctt taatgatgca gtggttttta tctgatcagg 2700
aacttgtcat gatttccttt cttagacttc ataggagata gtgcttt 2747

<210> 524

<211> 2544

<212> DNA

<213> Homo sapiens

<400> 524

```
aaaaatcaag atggcgctgt tctctgtgcg gaaggcccggt gaggctggc gcttcacccg 60
ggcacttcac aaaggacccg cagcaactct ggctccccag aaggagagtg gagagcgagt 120
gttttctggc attcagccta caggaatcct ccacctggga aattaccttg gagccatcga 180
gagctgggtg aacttacagg aggaatatga cacagtgata tacagcatcg tggacctcca 240
ctccatcact gtccccaag accccaccgt cctccagcag agcatcctgg acatgactgc 300
tgtgcttctt gcctgtggca taaaccaga gaaaagtatc cttttccagc agtctaaggt 360
gtctgaacac actcagttaa gttggatcct cacctgcatg gtgagactgc ctcgattgca 420
gcatttacac cagtgaagg caaaggctgc gaagcagaag catgatggga ccgtaggcct 480
gtcacatac cctgtactcc aggcagcaga catcctgtgc tacaagtcca cacacgttcc 540
tgtcggggag gatcaagtcc agcacatgga actagttcag gatctagctc gaagtttcaa 600
ccaaaagtat ggggagttct ttccattgcc caagtcatt ctcacatcca tgaagaaagt 660
gaaatctctt cgagaccctt cttccaagat gtcaaaatcg gaccctgaca aactcgccac 720
tgttcgaata acagacagcc cagaggagat tgtacagaaa ttccgcaagg ctgtgacaga 780
cttcacgtca gaggtcacct acgagccgga cagcagagct ggtgtttcca acatggtggc 840
gatccacgcg gccgtgtcgg gcctctcggg ggaggagggtg gtgcgcagta gcgcaggctt 900
ggacactgca cgctacaagc tgctagtggc cgatgctgtg attgagaaat ttgctccaat 960
caggaaggag attgagaaat tgaaaatgga taaggaccac ttaagaaagg ttttacttgt 1020
tggatctgca aaagccaaag aattggcctc tcctgtgttc gaggaggtga agaagttggg 1080
ggggattctg tagcaaggtc agccagtcac tgcaactcaag tcaaggcagc tttcctccca 1140
cagattttag cctgtccaaa ttcaattgag tgtgatgatc agctgcattt gatgactgct 1200
gtcaattgag caacgttcca atccctgagg caggcacagc tcttccactc cagttcaatg 1260
acacacagtt ttttggctctg aagtattccc gaaaacgtga acaattactg agccatggcg 1320
tgtgcttgct tgtgcagtat ttactgtgca ggtgcacttt gtctgtgttg tgcagacagg 1380
```

tcctatgctg caatcctgaa tccagtgggt atttgcagtt cataaagaga ggttcattct 1440
 tgcagctcat gtgatgatga tgtgatgatg tttatcctca tgtattggaa tgacttgact 1500
 tgtgctagca aggtggctcg ggctcaaggt acctgctgcc aagctgaata gctggagctc 1560
 aatccacagg gccagcatgg tggaaggaga aactgactgg caggttgtcc tctgacctcc 1620
 gcttgtctgc catggtatga gtacacacac acacacacat gcgcgcctaa gtaaaaatac 1680
 aataacctac ttgtttctta aaaggcacac actgacttac ttatttcagc aaatgtctgt 1740
 acttaagtga tccaggaggt cattggagag cattatattg cttcagttcc atctatttat 1800
 tatacagggc ctgtgttcct ggttgtattc ataataagca cttctatfff tacattcatc 1860
 tcagtttagt ctcaccaaac cctacctctg tggaacacat aggaactgag gggtagaaca 1920
 tggaattagc tgtacagtgt cactaagtaa ataagaagca agtccaagag tgaaggccta 1980
 gtccccctgc ttccaagact ggtgctffff aagacttctc ccaaagctct gagggccaaa 2040
 gttttggacc tctaaacatt ccagtattca gtttggatac tgaaaagata aaggctgaaa 2100
 tactgatttt tgtttatgtg aactcagcta atggttgtgt attttaaatc tggatccagc 2160
 cacctctggt cacacttacc tttcaaaacc ccaaaaatgg gtcccatggc ctcacttcca 2220
 aattcatgct ggagatgcct gcttgtctcg gccagattcc agtgggagcg aagtctaaag 2280
 catctgacgt ttccagtga ggaagcttc ccgtctcagc ctgcctcagg ctctgtgaaa 2340
 tcacagagta tagctctgca cgtccatgtt cacagctgaa acgaatggca gtcttggtt 2400
 acatcccaag gcctgtatca agattgattt tgcagggccca gcaagatggc tcagcagaaa 2460
 agggctcctt ttgtgaagca agcctgacta tgtgagttca atccctgaga tccatgtgat 2520
 aaataaagga gagaaccaac tcct 2544

<210> 525

<211> 1624

<212> DNA

<213> Homo sapiens

<400> 525

agcgcctgc accgcaggcc cagcgtctgc cccaccgaaa ttgccgaacc tggttcacac 60

actcatttac tcattccgca gataggtctg agggcctccc atgggccacg cgctggggat 120
tcaaggtggc tgggacattc ccctgctcta gaggcgctcg caagttagcg gggacaccgt 180
taccgcaatt acaacacaat gtagcaagtg cttctaccag gtgcctgctg agatcatgcc 240
agcaagcatg ttctgcctgg atgacctagg gccccacatt gaactggggc ctgggggatg 300
cataagtttg tcacgtaagg ggcattgtgca agaattggaag atgtgcaaaa aaggaggagag 360
gaggcatttc acggagaagg aaacggagtg gaagcagcct gaggccctca tccaatgcag 420
atgtctgtgc cgtgcgtctt gtccagcctg cagaacatg agccaaataa acctcttttc 480
actaccaat ctcagctctt atcaaagggtg ctggaagtgc ttgatcctga ccggaagctg 540
gaggacacat gggcttattg tcaggacacc aggaaaggaa tgaaggaacc cacgaagctt 600
ttaaaaaaac attctacca agtctacctg ggaccttcca agaagacgtc tgtgtcaaac 660
gcaggccaat ggctttatga agaaaagcca cataaatgg atttgctcca tgaaaatggg 720
cctcgtcctg gtcttcatga aaatgtatgc aaagcagtta gtgacttctg caagtgggtt 780
actacttttg gaatttcgga catcgatgaa gagttcatct tgaaacagtt tgacattgac 840
tatgagacca aaccaagcca tgatgcgctc cacacgatga agctaaatca ggttcctctg 900
gagctaaagc gtagtgtggg gctcagtaaa ctgcagaaga cagagttctt ccagaaacta 960
ggctatgaga ggaaactcca gaaaccacag aatccttata agccaaagtg ggtgaagatg 1020
aggatatggag catggtatth gaacccaag ttgtggaaaa agcaaagagt agacgagcct 1080
ctggttgacc ctgaggtctc acataaggct caagaggaga attttaaaaa ggagctgcag 1140
gaacaggagg agttacttgc agaccttcac ggaacagttg cctttaagga tttcattcta 1200
agcaggggct acaggatgcc acgtttcctt gagaatatgt atatcgggaa ggaatgtaaa 1260
cgtgcatgta ataagactcc tataaaacga actcaagcgt agaagaatcg taggagaatg 1320
attaggcaga ttttattact acgtacttgg ctatttctct gtctcctttt aaagattaaa 1380
cagagtttat gatgagtgtc ccactgtgga tgttcaactt tgacttggca acatctgtaa 1440
atgtaatacc tgatggttat aagcatttct caatggattt ctgcttcagt taatcaacat 1500
tttgtatact ttatcaccca tgagatcaat attcacatgt aatcttctca tatttttgtg 1560
gcacgtgaat attatatagg tatatcaact atttggtaaaa ataaataaag gcataaataa 1620
aaac 1624

<210> 526

<211> 2465

<212> DNA

<213> Homo sapiens

<400> 526

```
acagcagagc ctggcagggc tggggtcaca ggcaactgccc agggctcctt gggcctccct    60
tccacagctg agaagacctc tccacggagc tccggacggc tggggtcttg ctctgaggag    120
ccatgagcac agagggcccc agcctcgcca gctccccagc catcagcccc ctgccttttc    180
tctcagctcc cgctactccc gggacccttg cagaggcaac tgacccccctc cccatgctca    240
tcgccctggc ctgcatcttc ctctgtctgg ccacctgtct gctgttcatg acgctctgca    300
agccggccgc gctggaccgc agccgccgca gggctcacga gtgcatgccc caccaccctg    360
ggagccccag tgagccccag ctccggctct ggaagcgcct gggctccttg cgcctctccc    420
tgcacagctt ccgccatggc cggcccaccg tccctcgaca gcccctgccg ggccccgagg    480
acaaccgcag ccaactgtgac tacatggaat ctaccaagat gtaatggggg gtccacaaac    540
atgcccccac atccccctag gtctacctgt agatcctcct gcttcagaga ccggtgctgc    600
aggctgcagg aagacagtgg cccaagcagt ctgggacaca cactcacccc ccgaagctcc    660
ttgcatgccc aggccagcgc cttttcccaa agatgatcct cagaagagca ctttctctc    720
tgcagacccc ctgctgctg cttagatgaaa gacttctggg caagagatgt gcaactcgtag    780
tcatctgggc ctttggcctg aggctccaca ggggtacaacc tggggctcgt aaccacctcc    840
tagaagcagc accctcgctc gccacagaag ccttgccctc caggtgccaa agcccagcat    900
ggagaagttg ccaaattggc aaggttccct ttagtcaagt gaaatgctca gcctacaccg    960
gggccaagac actgtcctgg catctgtgct ggcccagtg cggggcaaaa cctcggggct   1020
ctcttccttg ggtttcccg gtgctgccag catctgcctg gtgccctgtg ggagcagctg   1080
cctccctcct ggtggaacag atgcctgggt gccagctggg aggaggagca aacagggctc   1140
tccaagcatg gtcttggcag ccgtcttggg ggccctctt cagggcaccc acgttgggat   1200
caatcaggaa gggattgaag atgatcgagg aggctccctt cagaggccag ggcgggtgct   1260
gtgacagagt ggcaagaggc agggcatttc cagcagctgg aggtgatgcc acctggactc   1320
ggaggaggac agctcacagc agctccacac ctaccccagg gaaagcggca gcctccccga   1380
```

ggggtgggatg gtctggacct ctccaggaca gctgtgggggt cccaagtcct gcccacacta 1440
 ggggatgctat ctgtgggtttt ggtgagtgtt ttgctgatga cccgtcaaag cagtcccacc 1500
 ccaggatggg cttctcagaa tcccaaacc ttgacctctc ctcaaacgc gaggggttaa 1560
 cactttggtc aggtcccaaa ttgaagggt gggcagaggg aggacctggg ctgcccagct 1620
 cctgtcccag tcagctggcc aggatcccac cacaaagctg cccaccccc atcctgtgtt 1680
 gaccacacagt gcagccagcc acgtctcccc aaggagttag ctctggcttg cactcccca 1740
 gctccaaaac cttactggc tccctaattgc caaatggata tagccaaagc tctcagcgc 1800
 agtgtgcagt gccctctggg agctggctcc aattaatctt tctagcctca tcttgatcca 1860
 aaactccagg aaaactgaaa gacctgtcac ccactaactg tggcttatgc ttcacacaca 1920
 cccactctgt gaagccctcc tgcttgagc cgcccctact gtctcctacc tctcttgggg 1980
 aggaaaagga acattctctt ggcagcatgg gtcctttttg tctatgtctt ctctttccta 2040
 ccagcttggg agcttgaga gagccagaca ttgtccagcc cctcactttg actccccagt 2100
 tctgtgcaca gaagtatgag gcttctgtgt acagagtga gctgggcca gcctgggtgt 2160
 gtccccacc tctgaggcag gactcttggg ggaagctggc ataacacaga gcctcatctt 2220
 ccctcagatg actctagaaa gatttctctc caagcaggct ctattggaga agcccactgt 2280
 cccttcctc caagtcaatc tgatctcaaa aagttagtcc ggcttcacaa gaaacttacc 2340
 aagaggacct tggagaagtc atcctgagac gctgcatttc tccctgagaa atgggagAAC 2400
 tcagggtgc cctatattaa ctgctggct ctaggatttc agtaagagta gtattgtgta 2460
 aatag 2465

<210> 527

<211> 1464

<212> DNA

<213> Homo sapiens

<400> 527

agtcgcggcg gagcgcggcg ttggcggcg atggaggcg cgagcggcg ctgatgcggc 60
 gcctggacct tcgctgcgcg acttcggggg cgtcggccga gttgggactc cgcgatgcag 120

ctcctgaagg cgctctgggc actggcaggg gccgcgctct gctgcttcct cgtcctagtg 180
atccacgcgc agttcctcaa agaaggctcag ctggccgccg gcacctgtga gattgtgacc 240
ttggaccggg acagcagcca gcctcggagg acgatcgccc ggcagaccgc ccgctgtgcg 300
tgtagaaagg ggcagatcgc cggcaccacg agagcccggc ccgcctgtgt ggacgcaaga 360
atcatcaaga ccaagcagtg gtgtgacatg cttccgtgtc tggaggggga aggctgcgac 420
ttgttaatca accggtcagg ctggacgtgc acgcagcccg gcgggaggat aaagaccacc 480
acggctctct gacaaacaca gcccttgagg ggccccggga gtggccttgg ctccctggag 540
agcccacgtc tcagccacag ttctccactc gcctcggact tcaccggttc tctgcgccc 600
gcccactccg tttccctgtg gtccgtgaag gacggcctca ggccttggca tctgagctt 660
cggtctgtcc agccgaccgc aggaggccgg actcagacac ataggcgggg ggcggcacct 720
ggcatcagca atacgcagtc tgtgggagcc cggccgcgcc aagccccgc cgaccgtggc 780
gttggccctg ctgtcctcag aggaggagga ggaggaggca gtcgccgag ccacagaagg 840
ctgcagccca gccgcctga gacacgacgc ctgccccagg ggactgtcag gcacagaagc 900
ggcctcctcc cgtgccccag actgtccgaa ttgcttttat tttcttatac tttcagtata 960
ctccatagac caaagagcaa aatctatctg aacctggacg caccctcact gtcagggtcc 1020
ctgggggtcgc ttgtgcgggc gggaggggcaa tgggtggcaga gacatgctgg tggccccggc 1080
ggagcggaga gggcgccgt ggtggaggcc tccaccccag gagcaccgc cgcaccctcg 1140
gaggacgggc ttcggctgcg cggaggccgt ggcacacctg cgggaggcag cgacggcccc 1200
cacgcagacg ccgggaacgc aggccgcttt attcctctgt acttagatca acttgaccgt 1260
actaaaatcc ctttctgttt taaccagtta aacatgcctc ttctacagct ccatttttga 1320
tagttggata atccagtatc tgccaagagc atgttgggtc tcccgtgact gctgcctcat 1380
cgatacccca tttagctcca gaaagcaaag aaaactcgag taacacttgt ttgaaagaga 1440
tcattaaatg tattttgcaa agcc 1464

<210> 528

<211> 2326

<212> DNA

<213> Homo sapiens

<400> 528

ggcataccac ttgggaagct ctgcagagag gacgtgacct ttcacaggtt ttccaacctt 60
acacacttag aactcggagg aatagtacaa caattatgag ccgtcacagc ctggaagaag 120
gcctggatat ggtgaacaga gaaactgcac atgaaaggga aatgcaaacg gcaatgcaga 180
taagccaatc atgggatgag agcttgagcc tgagtgcagc tgattttgac aagccggaga 240
aattatattc tcctaagaga attgacttca ctccagtttc tccagcacct tcacccacca 300
ggggattcgg aaagatgttc gtgagcagca gtggattgcc accaagtcca gttcccagtc 360
caagacgatt ttcaagcagg agaagtcaga gtccagtcaa gtgcattaga cccagtgttc 420
ttggtcctct taaaagaaaa ggtgaaatgg agacagaaag tcagcccaag agactcttcc 480
aaggcactac caatatgtta tctccagatg ccgcgcaact gtctgatctc agttcatggt 540
ggtgttatca aggagaagaa attcctgcct tgaccagatg tgtggagcat ctacaaatga 600
atgaatagtt atttacacac aaaccactgt gtacaaaagc gtccatggag ctgtcagtgt 660
ctcgagtggg attatgaggc ctcaggtgcc ttgggggtaca ttgtcatgct ataagggatg 720
tatatcataa ggtatggtgg aagagggggc ttatgtgaat gattgccaca tactgtttct 780
gttgctgctt tttttccgat tcctttttgt cattggattt gtttgttttg tcatgtgggtg 840
agtgggtgtt tagttattgt gttgctgcc gaatcagaat ccagttcttg ttcttactgc 900
cttatagtta ttgtgttgcc accagaatca gaatccagtt cttgttcata ctgccttgta 960
gtgagggcag tttaatatct acaaagaagc ttttagaagc tgaaaaagtc aatgtgattg 1020
tgcatctgc ttttaagaag ctgtttcagc tatgaactgt gtatgtgcta taagtgtgag 1080
gtaccataag ttatttaatt tttaaaagag gaaactcctg agtgagctgt ttaagaaatc 1140
tgagtgtgat ctattgttac gttatttata actaggtaaa atgtctgtcg tgatagattt 1200
cttttaacgt tcagatactg tggttgggtt gtctatatat aatatgcaga tttgcctgct 1260
ggaatcataa tccattttta agtgaatgta agaaatgaaa actactgcat ttgtgtcttt 1320
tgaaggcaag gaccccttga ttttaaagga agagtatgtg ctttgaaggc actcagagac 1380
tagtaatagc atatggtttg aagggaacc cattctcttt caattacaag agagcatcac 1440
ttagcgtgca gtacttctgt tacagcatcc gatgtgtcct ttattttaaa ttgtaaccat 1500
aacagccatt aatggcttta tttcttgat tgctctcatc tgggaaaagt ctctacttct 1560
tcaaacgtaa cataaatcta ttatgaagct tgtcccctag tatgccatta taaagaaaaa 1620

attcttcgat ggtatgcagt gtatctatc tgtttgtaaa agatcatgtc aaaatgttct 1680
 gcctctataa tgataataga tggttttgtc tttcaggata tttatccacc tactgtcttc 1740
 tttgccttaa agggacactt ggccatcatt tttaggctcg aacttaacac tgtaagaaa 1800
 taactgaaat atgatggtat ttacattaat ttttgaaatt caatggtggg atagaattag 1860
 gtcaggaaat ggaagttgtt ccaatggtgt gagaactagg agacaagatg attcacttta 1920
 ttatttaaac caagcttcat ttttagtttt tgttgtttta atggactgga aagttaagtt 1980
 tttgcaggga ttgttttgaa ataaagagat atgctaactc acagatgaac tttgttaaga 2040
 cccctttatt tttatataaa gtctaataat tgaaaagcga ttgttataaa gtaaaattct 2100
 ctcttcctat tctaataat atcatatatt tcaggcttct atttgaaaac aggtataaga 2160
 gatgatatga tacaacccta tagataatgt tttttgcttg attgacttat ataactactg 2220
 tttcatgatt actgcttttg gaataatagg aagttttgtg aaatgctggc cttgtgtata 2280
 tcttagaatg caaatttaat aaagtgtgta tacatgcata aaattt 2326

<210> 529

<211> 1738

<212> DNA

<213> Homo sapiens

<400> 529

aatgctaaga acaaagggc atccattcca aatgagtagc agaggtagc ttctagggtt 60
 tctacccatg ctcagttgta tccattccc tgttcacctt ttgtccccag cactgatata 120
 aaagccatat atatgttagt caggtttgca ctgagtcttc ttccaaacct tcagcctgga 180
 caacagagtg aggtccctt gtggccagag gccagccctc cttgcctgcc ttcctttgac 240
 ctctcttttc catccatgaa gccctcaggc ccttgtcatt tttcaccac agaaaactca 300
 tggcttctcc agaagcctga gtatctctct tcccagcac aaatggcagc atctctatcc 360
 tgcccatct gggccacttc agcttctgt agacacccaa gacagatgga cagtgttgga 420
 gggaatcagg ctttgaggat ccagtgtgaa gaagttgcag agtgtctttt tattttattt 480
 taaaaagggg gaaggggctt ttggttttgc tttgtttttt ggatgaagga gtgagggaaa 540

tgagggaata cccccaccag aaacagactg gaaagcctgc ctgtctcttg gagatccttc 600
tttgtcttgt tagtggtaca tgggaagtta tgtttttact ggtgtgtgtg tgtgtgtgtg 660
tgtgtgtgtg tgtgtgtgta cttaatgatg ggaaggtaag actctgatca ggattatgaa 720
ctgcggtcct tgggaccaa ggtgtggtca tggtagagag ttgtaggaca atagggtgtt 780
ttcagaatct ggggtggccac agagtgggat ttcctggtat ggacatcaga agtcactgga 840
ctcttctccc aacccagag ttatgggatt ttggtgcttt ctcagggtct ctccccagac 900
tcaactcttct cacccatata ccacagactc actcatggag accccttgt caatatcccc 960
tctaccttta ctcttttgcc ctttcccaat tegtcttcta ccacctggat tcttttccat 1020
tcatgaactt cattcagccc ttccaaagcc caagatttgc attcccttga cagggaggaa 1080
aggcaatggt aggaacctct ggtggtctgg gtgtctatgt gcctggtgac cagggctgga 1140
tttttattac tctgagccca ctgctagtga ggagccttga ggggtgggga caggttgctg 1200
agtgatthttg aacgttgaca ccagtgtgga gccagtgtgg gtgtggggag cagtgccttc 1260
ctcaggtccc agctggtcct gatatgccac gtagtggatg gcatctgtct tgggtccatgg 1320
gcttgggtggg aacatgcttc tgcttgtgtg ttttccatac ctgagggtg acgtagctta 1380
aaccacaggg catcatgcca aacactcact gctgggcagg tttatttctg gggatgtcag 1440
ggtactgggg tgtaggcact aagcaggata gagttagggt gtctggctag taaggggttc 1500
tggacgcctc tggggctgtg agttttcatc tcaaagtctg ttccagagaa aggaaagtag 1560
tatagagtg atttttagag aagctgagac catgaaaaca agcctaatac cttcccctac 1620
tcatgcact aatttacact cacaacaccc taggctcact aaacattcta ctactcactc 1680
tcaactgcca agaactatca aactcctgag ccaacaactt aatatgaaaa aaaaaaag 1738

<210> 530

<211> 1450

<212> DNA

<213> Homo sapiens

<400> 530

aaccaagta acttgaaga cagtttccgc tgccgtgcga gtcttcctgt ttgtttttat 60

ccaaggctctg gcagaattcg cccccaagga gaaagcgcct gtgcaccaa gctttcctta 120
agagacttgt ccacttgctc ctcgacaagc cacgcacatc atgggggtgag ccccatgcat 180
gagtgcggct ggaaaggccg gcagagccga taccgcacag ttgtttcctt cactgggcaa 240
acagcatggt cacggctgtc accgcgtgcc tcggcgttgt tcccacggaa ggcggaatgc 300
atttctgcaa ggcgcgtcat ggctttcatc tccgaggagc tccggcaggg tcagaagcgt 360
tgctctcggt caccggcgcc gactgccaag gctgaaactg gtgatgaggt catgggcacc 420
cggaggcagc agcctgagaa acaccctaga gacctgtgac atctcggccc acaccccaca 480
ttagacctca agatataatc aaagtctctt tccgccccat ctagacagga atcttgaaaa 540
gtttattttt ggccatcaag attgctgaaa ttcttgttga ccgaacgggt caagctgccc 600
tgcattccaa tgctgtccct ccaactcaaa gttgggcaga aaagggtgta aacacgtgca 660
gtccatggtc cagttaaactc agccactaca caaacttccc acaatgttga cggctttgct 720
aaacaccaag gaacatggta agaaaccaat cctagactca ctaatctaca cttgtaaatg 780
taaagatctt caaaaaatgc cagaaatcct tagtaacatc aatgataaca tctttaaagt 840
atctggtata gtgccacaac cggcacagaa gaaatggaag aaatcataaa catcaggctt 900
tagacaatgg ttttctcttt agaattcaac tgtatgaaaa gaacaaattt aacaaagaag 960
tatgtgtagg tgatacataa gtatcaatta aggcttcgaa gtgccacaca tcttgcaacc 1020
caaagctgtc tgaaccagaa aagagccttc tgcaaaccaa acccttattc ctttttgttc 1080
ttcataaaaa tgggtgaagt catttttggt ttaaagtcac gttgtaattg ttttgctttt 1140
ggacaaagta ttatttatc ttttaagaat tgtgggccag gcgtggtggc tcacgcctgt 1200
aatcccagca ctttgggagg ccaaggcgag cggatcacga ggtcaggagt ttgagaccag 1260
cctggccaat atggtgaaac tccgtcttta ttaaaaatac aaaaattagc ctggtgtggc 1320
gcgtgcctgt agtcccagct actcgggagg ctgaggcaga agaactactt gaaccagga 1380
ggcggagggt gcagtgagtc cagatcgtgc cactgtactc cagcctgggc aaccagcaag 1440
actctgtctc 1450

<210> 531

<211> 1832

<212> DNA

<213> Homo sapiens

<400> 531

gttctccccg	caggtgctgc	atggagtgag	tggcggcatc	caccgtgagg	aggagaggag	60
ctctgatacc	ctcaggaccc	gccaggaggg	gcatcacgga	ggcttctgga	cgacttggag	120
ctgtgtcctg	gggagaaaac	cgctcctgtc	tgggccctga	gtgctgagga	ggaagctgcc	180
atgcactttt	ccctggcatt	tttcctgcat	ggagagagag	gtccgaggtg	ccctacatcg	240
tgcgccagtg	cgtggaggag	atcgagcgcc	gaggcatgga	ggagataaca	aggacgtgtc	300
ggatgatgat	agcgagatgg	acgtgaacgc	catcgcaggc	atgctgaagc	tgtacttccg	360
tgagctgccc	gagccccctc	tactgacga	gttctacccc	aacttcgcag	agggcacatcg	420
tgccccctac	agggtcctca	ctggcggcca	gcgctgtggg	tgtgacgatg	atgacaagcc	480
taaaactgcgc	aaggactcgt	gtcccgggcg	ctccatgtga	ccacctcggg	agaggtctcc	540
ggcttgtcgt	aaccagagg	agtgaccac	tgctcctgc	agctctttca	gaccagttg	600
caaagaagag	ctgcatgctc	aacctgctgt	cgtccctgcc	ggaggccaac	ctgctcacct	660
tccttttcct	tctagaccac	ctggaaagga	tggcagagaa	ggaggcagtc	aataagatgt	720
ccctgcacaa	ccttggcacg	gtgtttggcc	ccacgtgct	ccggccctcc	gagaaggaga	780
gcaagctccc	tgccaacccc	agccagccca	tcaccatgac	tgacagctgg	tccttggagg	840
tcatgtccca	gatccagata	cctaataaga	tgctggaatg	taatccctgg	acaatccgtg	900
tcctggcagc	atttggctct	cctctaagcg	cctggctccg	ctgttctcag	gagtgggttc	960
tgaagtctct	ggagaacagg	atacgtggag	ggttaggaag	gggccaggcc	tagagacggg	1020
agactccctc	ccggagcagg	tggaggcaca	ggaccattcg	ctaccccatc	tgccggcacc	1080
tgcgggggag	cccaggcatt	ctttgtaagc	cctcctgacc	acctggctca	aagaaaacag	1140
aagcatggag	gccgccaagt	attttcaaga	aataacccca	tgaacatggc	atcacttttt	1200
tagaaagagg	ggtttggggc	aggcagagga	gagaagggag	agcaaactga	gagccaagtt	1260
tccagacagt	cctgcaggag	gagaggatgc	agctgcgcag	agggaagcag	gatcacattt	1320
aaggaagtgt	gtgggggtccc	tggatgacac	cagcaccag	tgcggtcttg	tctggcaacc	1380
gtcccaagg	tggcaggagt	gggtgtcccc	tgtatgtcag	tgggcagctc	ctgctgagcc	1440
cgcagctcac	tggggagcct	gacagcgggg	ccatgtgcct	gacactcctc	tctgcttgtg	1500
gacctggcaa	ggcagggagc	agaaaacaga	gccacttgaa	ggctttctgt	ctgcatctgt	1560

gtgcagtgtg gatttagttg tgcttttttc ttgctgggag agcacagcca ccatttacia 1620
gcagtgtcac cctcgtgggt ggcgaggaca gaacaggagc ctctgctctc tgtacctatc 1680
tgggcccgtt aggcctccctt gtcctggctt ccatctctgt ctcagcgacc attcagccct 1740
gcgcaggaac acgtgttgct tagaaaagcc aaatccagcc ttgtctctgc ctctctgtgt 1800
ctcatgatgt gcatctgtta ccttgaaact gg 1832

<210> 532

<211> 1867

<212> DNA

<213> Homo sapiens

<400> 532

agtttcccaa tgtttggggt ccagtgaag agagggaagt tgggcctgtg gctggggcct 60
ggtgtgtcct tactggcagg aagaggaagg gagggctccg cctaccccca cccccaccc 120
caccgtctca agcctggggc ctttagctct tgtggggagg ctgaggaggc agaacttgtt 180
tgtatggaga caggctgtgt gccgcacttg gtcccaaatg tgggaaagga gtcaggatgt 240
aaggcaggac acaggtgttc ttgaaagtgg agtcaccccg tcttctccct gcctcttctt 300
gctgagctct gggcagagtt ttcttccagt tataccttta ttgctgactg tgattctgca 360
cctcacacct aaccggggt tggaggatac ctgtcctccc ttctctctaa gatgtcagtc 420
ggctaaactc actcacactg aggtgcaaat gactgataac ctcttgctac cattctcccc 480
tagagattca tgggggttca agggcccagc tccacatttc agaagccacg tccagctgga 540
tgatggctgg cagaagactt ccaatgccta agttgggctg accttggtt ggctagtctc 600
tgccctgtaa gagaaacagc tgaggctgat gcattaggac ttattttggg gtgaagacgg 660
aaaagctacg tgcaggctag gcatgtccag gatgtcaggg cggggctccg aggacacaga 720
cagcaggtct agagctgtgt gacaaggtag cagggtcggt gggaggcgga gagagtcttg 780
gtgacggcac agggaggggt gggaggtctt cggaacagag cagagtgtg ggggtgggaac 840
gggcacaccc actgtcctga gcctgcccc ctccctccctt gattttaggg ggccattatg 900
tgttacctgg ggcccaggct gaggtgggga acttgggttc gatggctgcc cagcccttcc 960

tgaagctgtg tgaggacgag aggggtcagag gtggggagtg gtcctcctcc cagggaccag 1020
 tcgaggtcac tgcacaccct cctgcctgtt tctcctcagc tggggcgga tggtggtcta 1080
 ggcttcaggg gtgggcccta gcacccttgg agcaggcaag ggctccagaa gaggggctgt 1140
 taccagattg gtgctggagt gcctttggga gtgctgtcgg ttccagaaat atcccaggac 1200
 cttgtctcgg aacacctgga ggcaagcagg atgggaggtg gccagtgcac accttcccc 1260
 tcctcctagg ggccctgatt cccacctccc acccctgca gtggggggccc tggcccacct 1320
 cacagaggta gtctaggatc tcgaggatgg tgagcaggct ggccccgatg aacagcccca 1380
 tctggcccc aatgtcacct gtggagacag ggtcaccctt caacttacag ccacctgcct 1440
 gcccacaccc cccagccct gggggccctg cacacacacc aagcagctct gacatctcat 1500
 aggccttctt ctgctccacg gtctcatagt tgagggcctc aaagaagatg tccagggccca 1560
 gcacgttctc cctgaggaca agaatggcct caaatgtgcg ctggccaccg cctggtgccc 1620
 actgctggca agaagcagct gtgggttctc ccactccttt caagaaccct gggagaggcc 1680
 gggcacggtg gctcacacct gtactccctg cactttggga ggatgaggag ggaggatctt 1740
 gaggccagga gtttgagacc agcctgggca atacagcgag tcccctcccc tcccctcccc 1800
 cgccccccgc cgtctctgtt ttttaaaagt aaagattaaa aaataaaagg aaaggaaaaa 1860
 aaaacag 1867

<210> 533

<211> 3099

<212> DNA

<213> Homo sapiens

<400> 533

tattcgggttc cacgtcagaa agtgacacgt caactttcca cggctttgat gaggacgatt 60
 tggaagagcc tcgctcctgt cgaggacgcc gcagtggccg gggttcgccc acagcagata 120
 aaaaggcgag ttgctaaacc cacggaacag actctctggg caattagcca tccccctctg 180
 actttggtca ttgtgctggt tctgatatat atttttttta atgaaaggca acttttagatt 240
 ttccctctat ccttgctttt tttcccttca cctccacgt gtccctccat ccctcccccc 300

accctctgt tttgggtatg tacaacagaa gcacaaacta ctgaaacaaa aaaaaacagc 360
agaatgagcg ttcttccgag agatggcatc gtgatgcgct atttatattc catagaaata 420
ggaagttaga cggattgtct cttttctgag gggaggggggt ctttttgaca ggagcagagt 480
tgatgtcctc aattttcata tttattggca aaaggaagag aagaggaact ttgggttgga 540
aacaagaac caataacatt aaaacattat tatttatata ttctagctgt tattagaatc 600
agactttttt tgcgagagag agagagagag agagagaagg gaaatcaaag aaatcgaagc 660
aatatcctgt ttagaggcaa gccgcccgtt ggggagaatt tcctcaatgg gagacggttg 720
cactttctgt gccccacgga gtttgtggct ccccgcgga gaccctccc tcattctctt 780
ccctgacctt tccatcttcc tctctgcttg cgagaaaatg tcagtagttc cagagaagtc 840
ggggtgccta tgcctggcct ccctccacac ctgggccctg accagccgcc tcctgggctc 900
ctcctcctcc gtcagtagag ctgctgtttt gttattgctg gttttttctc actttcctcc 960
tggcaaagaa cgacttcaa atgcagggat ggaatataag cagaacgtca tgggctcagc 1020
agtgactcca ccacccgagg ccgaggccgt gcttctggaa gatagaagga gacatcatcg 1080
tgtgtttccc ctccccttgc ccctgttaag aaacgtatca ataccattg gatgatcaag 1140
gctaccgtat ttcttctatt tttttttata gtgcctgcca ggcactttgt tttatgtttc 1200
caatagcact tcctgaaata aaccaaagca aactgtctca aggcccctgg ggcgatggag 1260
aaggccaccc acctcactga cagtcccaag aatgaccggc tgcgaggtcc tagtcaaaag 1320
tcaacattat gacctgggga ctccagcatc cttcaagcaa gccatttccg aagaaggtga 1380
aaagaagcca ggatgattgg cacctcctcc tcctcctcct cttcttctc ttccttggc 1440
cagccccctc ctgtgcgtgt gtttcagaca acacaggagc cagcacagga gtggaaaatc 1500
ctgcagcgca actcagctca gccacagaa gccttgggaa tggcctcagt ttgtgcaata 1560
agaagatttt ttttttcttt ttaaactctt attatatatt ctttgattgt ctgtgagaaa 1620
gtaccaggt ccgcctggaa ttactctaca gtagaaataa ctgaacacaa acaactgat 1680
ggaaaaaag agttaactat tttatttatt tcaatattta aaaggaaaa agtgctgaca 1740
ttgcacagta tttttgttta aagtacctcc tacttcaaaa gtttaagcgca attttgtgaa 1800
gacatgaaat cataagagta cttaatgtaa aataaaagac tgcatattaa ctctaaagaa 1860
aaatgcccc cattttaagt aagaaaataa agatcaactc tgctctctca ggctttttta 1920
aaagccattc atgtatgtgc tttaggtatt tttatttctg cgagttggat gtggttaagt 1980
aggagtgtc agtttttttt tcctccttca aaagtctatt gaaagtgttg gtgatgttaa 2040

atgatttgtt gtttaagattt gactgaaata acttagccac aaatcagcag tttccccac 2100
 cctcattgcc ccctcacccc aggcaagccc cttttatctg aatgtcagaa gcagcctgcc 2160
 tcctagttat catgtctgat gaggtctagc tcaggaagga attccatcta ttgatggaat 2220
 atatccccctc aagttcaata gattcgaaca cagagagctt tgtttaaaat aatgcagcaa 2280
 aaaaaaaaaa aaaagcaaaa ataaaagcat cagctgaggt gatattagtt cagtcaccta 2340
 acaactccta gaagagatga ggaaaggga ccttctgctg agctggcttc tggggcctga 2400
 gcttccagag ctgtcccca gggctaggaa ggccgacctg aaggatgaga acctcaaatt 2460
 cagttgctgg tgggagccaa ggaagacggc ggggtgttcta acgtggccct ttctggctga 2520
 gctggcggaa gtgggcgttt tggccgatgg gatgtatctc ggcgctgtgt ctgtggccca 2580
 gcaaaggtgc agggctgact ggctgagcca ctgggttcta cccgcaggct cccactgca 2640
 ctgggctttc acacagccat gctcttgggt ttccctccct tgtaagcaga gtcataataa 2700
 cacacgaata gtctaacgct gggatattctg gtcagcagag gtccttgagt cacagtgtta 2760
 ctgaaatggg tctgagcctg agaatctctt tggcctctga aagggcaggg caggtgggca 2820
 ccgacttcct gccagtcctt tcaggtttcc tgttcaaagc cagtcctgtt ggtggagggg 2880
 atcaccgaga gtgtctgtat cattttgtag cctttttctc tgacgttttc tggtagaaaa 2940
 tgtcccttgt caaaatgcta ataattatca taataatctg ctttccaacc aactcccaca 3000
 agtgacaacc tgtgtagaac tgtgataaag gtttgcataa tgtaggggtt gtaccaagtg 3060
 tgtgtaagtt tctgttaa ataaaagtctg tttccaatg 3099

<210> 534

<211> 2046

<212> DNA

<213> Homo sapiens

<400> 534

tatttctttt ctgtctgtaa atggttattg ttgttttgtt ctttgagaca gggctcttgct 60
 ctgtcaccag gctggactgt agtggcataa tcatgcctca ctgcagcctt gacctccag 120
 gctcaaactt ccgcattccg aatagctggg actacaagtg tgcaccacca cccccagcta 180

acttttttct tcttttggat agagacaggg tctcactgtg ttgtccagac cggctctctag 240
ctcctggcct taagcaatcc tcctgcatta gctttctcaa ttgctggaat ttcaggcatg 300
agccaccatg cctggcctgg gctagtccta tattctctag agttctcttt actttgtgct 360
agtcaatctc tcattatgct gttcacctgt tataatgaat aattctctgt attaaatttt 420
accactttaa acttttgagt ggtttatgct tcctgattgg actctgacta atatgttagg 480
aaggggtccca ggagataaac ccacacagat gggatttggg cagtgtgag ctctttgcc 540
gtgggaaatg ggatgctggg gatttccagt aggtgacctc acagtgactc aagctaccac 600
ttactgttga ttgtgacgaa atgccagctg aggcacatgc cttgggagct aagtggttgc 660
tgcacttgac cactgtgaag actggtgtgg gaagaagggt cgtttctgat gcacttgagc 720
aggggtcccc aaccctgag ccatggagcc gcaaggagcc acacagcagg aggtgagtgg 780
tgtcgagtga gggagtgagg gaagcttcgt ctgtatttac agccactccc ctttgctcac 840
attcccgct gagctccacc ttctcagatc agcagcagca ttagattctc atagaacgca 900
ccctgttgatg aaccgtgcat gtgagggatc taggttgcgc tgccttaat gagagtctaa 960
tacctattga tctgtcactt cctcccatca cgctcagggt ggaccatcca gttgcaggaa 1020
aacaagctta acacgccac tgattctaca ttatggtgaa ttctataatt attttattat 1080
atattacagt gtaataatgg aaatgaagtg cctaataaat gtgaatgtgc ttaaattctt 1140
tggcccagct cctacctccc ggcagcctct ccaggcccag aactttctcc agtcagcctc 1200
tacagaccaa gctcatgact cacaatggcc tatttaggcc cataccctac ctcacggcag 1260
tctccgcaga tgagcctact gcctcacaac agcctccaca ggcacagctc catcgttaca 1320
atggcctctt tagaccagc tcctgcctcc cagccttctc tccaggccct gaactttctc 1380
aagtcgacct caccaggccc agctcatgct tctttgcagc ctctccaggc ccagctcctg 1440
catcttggtg gccctccag gccagcctg tgctcccgt cggcctctac agtcccaaca 1500
tctgcctcac agcagattct tcacgccag cctctgcctc acagtggacc ctccagaccc 1560
agatggtgtc tctactgtggc atcctcaggc gaagctcctg ctttcagca gcctctccag 1620
gcccagctcc tcctgcctcc cagtggcctc tttcgccca gccagctca tgcctcccgg 1680
cggccttccc aagccccgt tttgactttt ggtggcctct gcaggcctcg acaaggccca 1740
gcctcctgcc tcccgaaggc ctgcacaggc ccagcctctg cctcacagcg gactctccac 1800
gcccagctag ctctcgctc actgcggcct cccagctcca aagctcctgc ctttcagcca 1860
cttcggcagg tccagctact gcctgccagt ggcctcttta ggcccagctc attcctcaca 1920

acggcctttc caggccccgt ttttcccttc tggcagcctc ttggcttcta atttgtttat 1980
cttttgtgta taaatcccaa aatatggaat tttggaatat ttccaccatt atatattttg 2040
gtcgggt 2046

<210> 535

<211> 1597

<212> DNA

<213> Homo sapiens

<400> 535

agccttctgg gtccgaggct cccacctgct ctaagcgctt gacacccttt aaaaaaatgt 60
atttaaagag gctggttcct atccatccga ctggaggcat ctcagtgcaa gagcaaagct 120
aagtcctgca cacgctcctc ccctcctcct cctccttctc ccccaggtt ttcccgaatg 180
tatctactcc ggttacaact agacgcggcc cctccccac ctgcctcccc ccttccttcc 240
ctcgatcgtg gaggagcgt tctctgtgcc ttcccaagtc cccgtggggg accttctatg 300
ttggagtggg gggagggggg gagggtcata taacgaaggc cagaaagaac aaattagata 360
atcaaaagaa ttatagtaat tgctttcact ttccccgcc cgctcagcgg attccctccc 420
ccgcccctcc cctggttttt ctgtctgtcg ggaatactcg gtctttccga cccctcccc 480
tccccaggt tctcctctc ctctcccctt gctcgcgcgt tccctctctt cctccgtttt 540
ctggtgtgct ggaacgttca gcggaatatg atgaatgatc acctgtcaca gcttgtttat 600
tataatgcag gcaatcaatt acacatcccc aatgctggcc ggcccgcagg aaatttatat 660
gctcagcaca aaccaatgtg aaaatggaat ctcatgtgcc aaatgtcttt ctccccgtac 720
agcacgatga ttacagtctg tgtttgtttc aacagtcgtg tacaactgac agtgccatca 780
tttactgcct ggctcaggtc acgttactct aaggctttat ttatggtgtt acgaagggca 840
gcacaggaaa aggacaaggg tgtctgtcag ggatggcact gtgttaaaaa gtgggcgtgc 900
aagggccgca ttcccgggca gccgctgcaa cctcagcccc tggggccctta cctccgcagc 960
ctctcccagc atccagctac ccagactcca aggccccagg cgagagccag ctctcggtac 1020
ctggagctcc acaggtccca gaatcggggg gggtcagagt tcaaattctg gttctgctac 1080

tgtctaattg cgtgctgcag ggactcaatc tcttcatctg ggaaatggga gtaataaccc 1140
ttggcaggaa tgttgcgac ctctgggatg tcagaggtgt tgatgaatgt tagttcccgg 1200
gacttcggaa agaggtcccg ttggaagaga tgtgaattgg aattcacacc ctatattaaa 1260
atctcctcca atcttcacct ctgagacatg gctgtctcaa gactgttttg tttcccttcc 1320
tggtggaatt ttgcactttt atgtcctgtg tagcagcagg tagtgtggct ttgagaaaat 1380
aaaatggcca ccttgctccg ctgttcttctc tttgtaaaaa aaaaaaaaaa aaaaaaaaaa 1440
cggcatagca atcttggcct ttctagctgt gtgaccccag gccggtcaat ccctcctcct 1500
ctccaagcct cggattcctc ccctgagaag taaagaaaat aactcctaaa ctgcctcccg 1560
aggcttgctg gcaggatcca aggtgtccag agatgtt 1597

<210> 536

<211> 1675

<212> DNA

<213> Homo sapiens

<400> 536

gagtggctca gaaaggccat tcctagaggg ctgcggccct cccttctccc ttgcccatgc 60
ccccagagct gcctgccggg cagggtggca ccaactgcagg agaggagctt ggcctccggg 120
ggtcaggcag gaggcgcctg gctagccagt gctggctccg ctgggaggga agccctggac 180
ccccaggtat gaggaggggg tggtcttagg gttctgttcc aggtctgccc cgccccctc 240
ccagccatgc ccaggcaga acttgggaatt cagggtgtgca cctgcaggct gaggggctct 300
gtgagcaggt gctgctcaca caggaggttc aggcgccagc caagcccctg tgctgctggg 360
ataggcctgc ttacttagg gagcactgcc tcaagacagg taaagcccc tcgtttgccc 420
ccacccccat ggggccgctc aggagagaaa ctccattca cccctttccc aggggtgtct 480
ctctctaggt ggcatgccag ccccaaaca caagtggctt ttgggcccag gtgggtcagc 540
ctgctgcccc tgccccatac cccctcgggc cattgggacc cctgcccttc agatgtccta 600
gggtctagga gtggggccag tcaactgtggg aagaggccag gggcttggcc ggagaggcag 660
cccagggcag gactcagtcc tgagtcctgg agcagggccca gggaggcgcc catcccgccc 720

cggccagccg ccctctctgc tgttttcttct atttgttctt cttttcaccc acagctctgt 780
 gttcctgtca tccctccttt cagcaaaagt cctgttccca ttccctctgt cccacccac 840
 tcctgttccc ccaagaaaat aagctatcgt tgtatttaca atctatggat tagaggttta 900
 agtatttatt attattgggt aattattatt aattatgtaa attgcctcc cgtatgtctg 960
 ttgcgttggg tttctgagga gaccctgggt gaggaggatg cactggcttc ccgcttctcg 1020
 cccccaccc ctgtgctgtc cgaggagacag tggctctgggg cactgggtg ggcccccttc 1080
 tcccttcccc cttccccctg tcccttctgc aggccgttga ggggggctgt ctgtctcagt 1140
 ctgtctctgc tcccactctt gaggcactgg ttaccgcaaa gtgagcagcc agcagggggg 1200
 cgaaggctct gtgttggcca ctgcctctc cagtgtctga ggaggcgggc tgaggcccca 1260
 cctggtgggt ttcacctgac ccagccctga gtcctctcca agcctctctc cggccccctc 1320
 cacctggcca ctgcctctc cagtgtctgc ggaggcgggc cagggcccca cctggtgggt 1380
 ttcacctgac ccagccctga gtcctctcca agcctctctc cggccccctc cacctggcca 1440
 ctgcctggca ttgggatcgc cccaaaatgg acccgggccc tcctgttatt tgctgggaag 1500
 tccagcggag gagagggtgc aggtcccccg ctgagcctcc agtctctgta gactgggctg 1560
 tcggcccttc agccccctt ggagccccctc ccgccacagc cgcaccttct gctcccggcc 1620
 cctccctttg tatttggaga caatgtgttg taataaagct taaagtggat gtttt 1675

<210> 537

<211> 1704

<212> DNA

<213> Homo sapiens

<400> 537

agacgcgcgg cggcggcggc gagcgggtggc gctcggctcg ggcgaccgcg gcgggggagg 60
 gcgcggcgca ccgatgggag cactgagaa gggaggccag aagagccgga agctgttttc 120
 cttgcggcgg ccgtggaagg cgaccggcg gctgtggagg ccacgctcag ctcgccaggc 180
 ggcgcagggt gagtgtgggc gcggccggtc gggacctgtt accctgaggc aggggcgcag 240
 cggcggcggg gccgtccccg gcggtctctc gggtcgcgtt cccggccctg ggagcctgga 300

tgccctaggcg acgcccgaac ccgaccctcg gtcgcgggta ccgggaccgc tggggaagcg 360
caggggctga tgtcggcaca gtctcctttc ctctagcccc tgctcgttgc tttggctctg 420
gacacaggga agccacggtg gcgcggcgac acagcctcac tgaggtttagc ttgtccccgg 480
cccccagcac ctggcctggc gcctgcaatg cagtgcctac tgggggaatg aatcagaacc 540
cgaggctccc ttcaaggtcc tcccgccctg taccacctc ctctctacct gcctgcggtg 600
atttcgaagc tctcgccacg ataaactatt tccaagcaca ctcagtcctg tcctcgccag 660
ggcctcaact cacagccaat cactgactca ctccattcat tcattccaca atttttatcg 720
agccccctca tctgccttgg ccggagaaca cgatgggcaa agcccggatc ttggaactac 780
ttctagagag gaagacagac attacacacg caaaacagag aaagcccgtt acacattgct 840
atgtgcgctt agagggaatc agtctgctga cagaggaaaa aaggcaggtc cccgagcttc 900
catggcaggc ggactgggaa ggcctctccg aggcattgca agtcagcgga gacccgagga 960
ctgactagga gttactctag cgtgaagccg agtaatagag aatagcaagt ggaaagggtc 1020
ccagagtgcc tgaattgagc aaggggaaag agagggatgc agggcctgga tcgaggtctg 1080
ggcagaacat gaagaggagt tcggatttta ttctacgtga gctgggaaaa cactgaagtg 1140
tgctaagcag ggaagtgacc tgatctgggg gctcccggct tttctctgtc tgcagtgtcc 1200
atgtctgcat ctcagcctgc cggattccta ccctcctgcc aagactagca caaatgcagt 1260
ctcctcgctg aaatctctgt ggttcctgcc acctgtaacc cctcctttag catttcgtca 1320
cctgtagagc gtttgtcact gttcatctgg tattaaagat tccacattct catccatttc 1380
atctttgcat cccccacgag gctaagtgca gggcttggtg ctgtgtagat actgcttatg 1440
aatgtgtctt gtcttgtcct ttttgtctgt ttccatcatc tgaggatcct tcctctgggg 1500
ggttgacatg ccttatttct aaaatggccg accggatgca gggcagagcc agattgcacc 1560
aggaccctgc catcgatata gtccccctca cccacccccg gtgttttgag gattaaataa 1620
attaatgaat taaacgagtt agtagttata aagtgttagc acctattaag cattataaaa 1680
ataaatttga aaatgaccag caat 1704

<210> 538

<211> 2118

<212> DNA

<213> Homo sapiens

<400> 538

gacaaggttt	cactgtgttg	caaggctggg	cttcaactcc	tgggctccag	tgatcccccc	60
accttggcct	cccaaagtgt	tgggattaca	agcgtgagcc	accgcgcca	ggctttctgg	120
tttttggccg	tgtagagctg	ccacaattgt	gctgtgaaca	agtacttcag	tgaacatatg	180
ttctcccttt	ggataaacac	ttggagtggg	atttgttagg	tcctgggggt	agtgtgtgtt	240
catagtttcc	caaagtggct	ttgccatttg	catttgaacc	aggacttttg	tgtgtgagaa	300
ttctagctcc	ttcttgtcct	tacagagcag	ctggatgctg	cgtgtgtgga	gccgatcaca	360
ttgggttttg	tgtgagccat	tagcagggtt	aaggatttta	gggacttcac	agaaggaggc	420
tggagagcat	cagcagaggc	agcctagacc	ttggatctgt	aaaaagaaga	cactgtttga	480
aactgcacaa	atgagttggg	gtttccaaca	gggcaggtgg	gggcctgtgg	gtggatgggt	540
gtggcagcca	cagaggctgg	gatagcttgg	cactggggtc	agggctcagc	cagcctgtgt	600
gccttcacac	ctggtaatga	gatcacttgt	aaacaatttc	tgtttatcaa	ttacaggata	660
caaaaaaaga	agcacggaag	gaaaaagaaa	tttatgaaca	ggaagcaa	gcctcaacat	720
ttcatagaag	gaggactcca	ttggataaag	gccttattaa	tacggggatc	tgtgagtctt	780
ctggcaaaca	gtgtttgcct	ctggttcagc	tcatacaaca	gcttcttagg	taaatcatat	840
tagctgtatt	gtattgtgtt	ttatttattt	acttttttgt	tttttgagac	agagtttcgc	900
tcttgttgcc	caggccggag	tgcagtgggtg	cgatcttgac	tcactgcaac	ctccgcctcc	960
caggttcaag	taattcctct	gcctcagcct	ctcgagcagc	tgggattaca	ggcatgcgcc	1020
accatgcccc	actaattttg	tagttttgtt	agagacaggg	tttcttcatg	ttggtcaggc	1080
cggctcttga	ctcccgacct	cagggtgggtc	atccactttg	gcctcccaaa	atgttgggat	1140
tacaggcatt	agccaccacg	cctggcctat	ttatttactt	attaatgggtg	tttttttttt	1200
tttttttttt	tttttttgag	atggagtctt	gctctatcgt	ccaggctgga	gtgcagtgtc	1260
acgatcttgg	ctcactgcaa	ccccgcctc	ctgggttcaa	gctattctcc	tgcctcagcc	1320
tcccgagtag	ctgggactac	aggcgtctgc	aaccacacct	ggctgatttt	tgtattttta	1380
gtagagatgg	ggttttacca	tattgggtcag	gctgggtctca	aattcctgac	gtcaggtgac	1440
ccacctgcct	tggcctctca	aaatgttggg	attacaggtg	ttagccactg	tgcctggcct	1500
gtattgtatt	ttaataggtg	attattgggt	ttcatattaa	gatagtga	tctagcgcaa	1560

ggatctcaaa aatttgttg atgattgaag gaatattctg aaaattacct agtatagatg 1620
 ttaggataaa gagcagaccc ttttcaatat aggtgagagg agaagttgga ggggtgtgatg 1680
 atactcaaaa gtttttctact gaagagaaat tggggcgtgc agtaaacaatg taaaaagatt 1740
 ctactaata agcaggtgga tgcaaatgaa aatcatcatg gaaggttatt tttaaaactg 1800
 gttctatcat tgcctcactt tatatattac agagttatac atactacttt gtaagataac 1860
 ttttcttttc aaaactgaag tcaatgtgat agaatgggtga gcattatattt ggaaggccag 1920
 actaggagga ggtgggagga agaagtcaga ctcagcctgt gaacagacgc taaccttggc 1980
 agaagccaaa acagtcagac agtgttgtct aaaaatgatc attcaagaag agcgaaacag 2040
 caaggatgatt tgtgaaagag atttattaga aaatgaaaca cattataacc tctgttcaat 2100
 aaaaatctgc ttttcgtc 2118

<210> 539

<211> 1772

<212> DNA

<213> Homo sapiens

<400> 539

attctcctgc ctcagcctcc cgagtagatg agatcacagg cacgtgccgc catgccgggt 60
 tgacttttgt atttttagta gagacgggggt ttcaccatgt tgcctaggct ggtcttgaac 120
 tcctgacctc aggcgattca cccgcctcgg cctcccaaag tgtaggatt acaggcgtga 180
 gccaccgcgc ccggcttgaa ttgtacactt caaaagggtg aattttatgg tgttgaatta 240
 tatctttatt tttttaacgg ggggaaaatg acgccgctgg agaggagtta gcggaactga 300
 aacaatgaaa tgggtgcgca gtgtgcctg tccccgtcgc atccatcca acgaagtttg 360
 ggccctggaa cgggtgcacc agaaggcctg cggggagaga cgctggggca tgatctggaa 420
 gaaagacgtc tcaggattcg aagggaatgc agctaagggt gcggcgaggg ttcgcctagg 480
 actggggagg cgtccctagg ctcagaagtt ggcccggccg gagcggagat ttaaaggttg 540
 gagcgcagag gctcttaaag aggccgagtc gaattcccac tcggcgtcca ccttaaagcc 600
 agtccccgg caccacgat ctgaccggg tctgacctac gagaaacatg gcaaccagcg 660

ccgtccccag tgacaacctc cccacataca agctgggtggt ggtgggggat gggggtgtgg 720
 gcaaaagtgc cctcaccatc cagtttttcc agaagatctt tgtgcctgac tatgacccca 780
 ccattgaaga ctctacctg aaacatacgg agattgacaa tcaatgggcc atcttggacg 840
 ttctggacac agctgggcag gaggaattca ggcctatgcg ggagcaatac atgcgcacgg 900
 gggatggctt cctcatcgtc tactccgtca ctgacaaggc cagctttgag cacgtggacc 960
 gcttccacca gcttatcctg cgcgtcaaag acaggagtc attcccgatg atcctcgtgg 1020
 ccaacaaggt cgatttgatg cacttgagga agatcaccag ggagcaagga aaagaaatgg 1080
 cgaccaaaaca caatattccg tacatagaaa ccagtgccaa ggaccacact ctcaatgtcg 1140
 acaaagcctt ccatgacctc gttagagtaa ttaggcaaca gattccggaa aaaagccaga 1200
 agaagaagaa gaaaacaaa tggcggggag accggggccac aggcacccac aaactgcaat 1260
 gtgtgatctt gtgacaggcc tgaggccctg ggcacagtga cggtaggcctg gccagccctc 1320
 gggacccctc cccacctaac tgcactgaaa ccatttctaa ccacaacct tggcccaagg 1380
 acttgggtaca ggaagggaga agggcagggtg ggcagggagc agacagggtc tggctttgcc 1440
 cagagggcac gggctttccc acctctcaaa gagacaagga agccacctgt aagcagaagc 1500
 agcatccaag tgcccctggc ccccccattgt gttgattcaa cccggttcct cccctctct 1560
 cggtaggtgt gttgtttatt gtaactacat agtggttggt tgatgtggaa gtgtttatcc 1620
 acatacaaag tacaaaacaa gccatgaaca agcttctttc ccttaccacc catccacaat 1680
 gtctgagctt ggatgtcttt tatagatttt taaattattt tagtgattat tattttatta 1740
 aaggggtctg ggctcactgc ctggtgaagt tt 1772

<210> 540

<211> 3222

<212> DNA

<213> Homo sapiens

<400> 540

aataaatgtt ttccttttcc ttcttgcct tgacaactaa aacctgccaa tcatcaagtc 60
 ccttttcccc aatctgttcc ttttcaacct caaagtcatt atctaggcca gcctcttacc 120

actaatttca atggacttga tgacgtagtt ctgggttctc cctgagaaac ccaccttaac 180
atccatcaca aaatatattt gagttcccag ttggtcttcc acatgtactc aagaaaatgt 240
ctattcctat ggtctctgtg ttactctgcc aggcaccatt gttaatccaa gtagctctgc 300
caagaacagt agctataagg gagaagagat tgtgcttagt ggacagcatt cttcaaacat 360
ggcatctttt caactttttt ttagtaggct ttatttttca gagcatcttt aggttcacag 420
caaaattgag tgaaagtaca gagatttccc atttattctt tgccccaaca catgcaaaac 480
ctcacctggt accaatatcc cccaccagag aggtacattt gttataatca ataaacctac 540
aatgacacat tgctatcacc caaagtccat agtttacatt agggttcatt cactcttcgt 600
gttgtagatt ctatgggttt tgacaaatgt cataacatgt atttataatt atagaaatat 660
gtagaagagt tttattgctc taaaattcct ctgtgctcca tccattcatc cttttcttct 720
cccagtctct tgaaaccact gctactgtta cgggtctccat ggttttgcct tttccagaat 780
gtcatatagt tggaatcata ccgtaggaag ctttttcaga ttggcttttt tcgcttagta 840
atatgcattt taggtttctc catagctttt catggctaaa tagctcattt ctttttagtg 900
ctaattatcc attgtctgga tgtaccatag cttatttatt tgcttattta ctgatggcat 960
cttggttgct tccaatattt tgcagttatt aataaagctg ctataaacat ctgtgtgcac 1020
atztatgtga acaagttttc aactcatttg ggtaaataatc aaggaacatg agtcttgaat 1080
tgtacattaa aaatatgttt agttttgtaa gaaactgccaa aatgatcttc caacatggag 1140
gtaccatggt gcattcccac cagcaatgaa tgagagtttc tgttgctcca tatctttgcc 1200
agcatttggg gttatttagtg ttttagattt tggccattct aataggtgtg cagttatatc 1260
tcaatgttgt ttttaattga aatttcctaa tgacatgtaa tgttgagcat cttttcatat 1320
gcttattttc tatttgcata tattctttga tgaggtgtct attcagatcg tttgtccatt 1380
ttaaaatcag gttgttcatt ttcttgttgg gttttcagtt attttgtatt ttagataaca 1440
gttctttatc agatatgtct tttgcaaaat ttttttccc agtctggggc tggttttctc 1500
atctcttttc aacattttca aaaagaaaat acataaatat gacagttggg aagattgcga 1560
tgagaaggca tagagtagct cttatcagta ggaatattac tcctccctaa agagcatttc 1620
agaaatttga ggaaggattt tttgtctcac aatatcacta gcatttagca aatgggtgtcc 1680
aaaaattctg gatgtcctat aaagcatgag agaatactga ccaatgcaga ttgtctcaca 1740
tcctgtacag ctttcaaatg tcccaccaga cactgaaata actgacaaat ttatgaatca 1800
ttatgtactt ccataacttt agttcattct gcatagaaaa atgtgtttta aacatgggtt 1860

taatatacac agaaagtttc tagagatgca actctataaa ttgaaatfff tattacatct 1920
atfffgttta gatffttatt aaacaatatt caccattttg gaaagcactg ttataatffa 1980
ctacaccgct tgagctaata gactgtgaaa aaacactfff gtatcagtct acatffgtag 2040
ctattataat cgctgtgagt ctacatffaa atgtaagcac ctaactactt catffttgtt 2100
attctgcaat aaaaagagcc tactgatcat acagcaacat aaatgaatgc tacaggcatt 2160
ttgcaaagag aaaaatctgg atacaaaaga gtatatacta tataatffaa tttatatgaa 2220
gttccagaac agataaaata agtatatggg gaaaacaaat acaatffcta gctctffgt 2280
ggtagttccc ctatgtcatc cactatatcc gtgtfftcct ttaagcccta aatatatctg 2340
taacaggtag tfftagagtc tffgtcttct attgcaaaca tcttggttat ataaagttgg 2400
gcctffatff actgcttccc tctgtffgtt tatgagtcat atffctfftt cttctctfftt 2460
tffttcccat gtctagttat cfftgattat atgcataata ttgatgacat attgcaagga 2520
agctggatff tatgtcttgt tffaaagggc atffatffaa attgctagaa ggtcctccag 2580
atcctfftag gcttggtgtc attccatgtt ggagtcagtc tctffcggtt ttgtctcttg 2640
tcctagcatg tggctcttat tffaaagctt gactffatff ttcaaggtag ttgttgtctt 2700
aaacaaatgc ctgaggcgct caatgaactc tctgcactct ggctagacta taacatgtac 2760
aacatcatct aatccagtgt aatfftaggt atctffgttc accactcact cctacagtag 2820
ccactffctc ctagtctctg tggcgatttg ttctacacat gtgcaacca gctctatacc 2880
aaagatffat ggagagcctc catgcagaca gctgtctccc tccatcacat cactcctff 2940
tctcttgccc acaaattcca gtcacttcca ctgtgttgaa ctctgctctg tcttctagct 3000
tggaagacc accatffttt actggagctc tacctcccag ggtcaaagtc tgaaaaatag 3060
tcctaggtag aaggatgaaa taatffacat aatgcatgtg cctgtgaagc acttagcatg 3120
atgtctgcac agagtaaatg gccataaat gttgatfftt attatgaaat ctgtatffga 3180
tacaaatff atctataata tfftatffaa gaaaaaagtc tt 3222

<210> 541

<211> 1881

<212> DNA

<213> Homo sapiens

<400> 541

tttatagatg gtggcactga ggttggggag gtcaggaggc tcggccttgg cccctcaggg 60
acagagctgg tgttcagagc cacatctgtc tgcctctgaa gaccagggtt ccttgagtcc 120
cccaggtgag tgtgtgagac tcacagtggg cgccttgggc acccaggagg cacagacggg 180
gaggggaaggg gtgagaagga gagtggagct gaggacatgg gagaggtgcc agcttccttc 240
tgcctgggtg agccgcccac gcggctctct ctcccttccc tttctctgtt cccagcattc 300
ccgggcttag tgggtgtccg ctcaggctct gattcactcc tctaattggca catgtcaagc 360
atttctccct aggtgccct tgggaatgga agcccctaac tgaggacagt gaaaatgcca 420
tcctgttctt cctgccccag acagtgggtg gcaactcagc caggagctca gggaggggat 480
gcccagcagg ccgtggcttc tctccccgt gtcccatggc actcaggagt ggccttttcc 540
atatctccag gcctcagttt cccaccatt cagtgaggat gctggacttt tttttttttt 600
tttgagacgg agtctcgctc tgtcgcccag gctggagtgc agtggcgtga tctcggtca 660
ctgcaagccc cgcctcccgg gttcacgcca ttctcctgcc tcagcctccc gagtagctgg 720
gactacaggc gcccgccacc acgcctggct aattttttgt atttttagta gagacgggggt 780
ttcactgtta gccaggatgg tctcaatctc ctgacctcgt gatccgcccg cctcagcctc 840
ccaaagtgtt ggtattacag gcgtgagcta ctgcgccag ccatggacct tttttttttt 900
taaagctaca atatctttct cccccaaggg aaatgatgtg cccagcatag tcaagacaga 960
caagagggag ctcccatggc tgagttgggg cctcaagccc tccctctact cctcctcaga 1020
ggccaggggt gacagagaca gatcttga aaacctgggac aagtgccctt gggctgcagg 1080
gttgggaacg gggggagcat ggccagccta tcacctggtg tgccctcagg tgaaggaata 1140
cgactccatc tcccggctgg accagtggct caccaccatg ctgctgcgca tcaagaagac 1200
catccagggc gatgaggagg acctgcgcta agccccaccc agccccccag tgcccgtctt 1260
cctgtcccat ctgctcagag agaggtgggg ccgagacttg ctggagagct tccctccttt 1320
cccacctggg gagtcccgcg ggccacagtg ggccaggtggc accggggggtc agcatgcagg 1380
ggcgccagag gcccaggctg ctggccggac agtcaccctc tgttctcgct acatcccttg 1440
ccccctgtcc atttatttaa gccccatag gtgcccttca ccccaaaac cagctgtaca 1500
gaatctttga tacagacctt tttgctaggg gtgctgccgg ggatttgggg tcagcatctg 1560
gtccctatc tcctgaccag ctgagtcatg aggccggttt ctctctctct cccacttttg 1620

tccccagcc aagctctaaa gcacatgtag ccgctgagac ctgctgtttc tgctgggggc 1680
 aggctcctct tccccagcc ccgggagcct cccccagctt cctgcagccc cgacctctca 1740
 ggtagaccc tgggccctgg agcttagggg attctcccca cccagcccc acacctgctc 1800
 cttccctaatt gctttgaggt tttcttggtt ggaagctgca gctggcccaa gaaagaaaat 1860
 aaaaaacaac acttttgcatt g 1881

<210> 542

<211> 1631

<212> DNA

<213> Homo sapiens

<400> 542

catggagccg tttgaggcta gttttttaag gccacaactc cagaccctg atttagactg 60
 agataggaaa cagatcttga aagaatcctt attttaatga tacatgaata tcatgttctt 120
 atacgcttaa taattggtct ctacgtttta atgatacatg aatatcatgt tcctatacgc 180
 ttaataattg gtctctacga ctttaatgtt ttgtttttt taagctgtgt aagtattttt 240
 aaatcaaagc ttaggaggtg tgttgcgtgg tactatctgc tgcaaattta tctgaagttt 300
 gttaatatatt tccaagattt ttgtcagcct ttccataatc cagtcattaa caacctattg 360
 gtaaacaaga atgtaggtgc cagtagacta aaccaaattt atttttccct gagtctgata 420
 tatatatgta taaatataaa taactcaatc catctgttcc accaaaataa ctcaaaagtt 480
 ggatgattat ttgtcttccg ctttccagtt caaagggatg aaattccttt agaacttgaa 540
 agatgacact agcgaacacc atgagaatac tgtctacagt ttttggtacg tcatcactag 600
 aacagtgacc ccaaactgaa tcatgaaagg tctgacatga tgtaatctga tcttccatgt 660
 gttatttttg ccccatctct cttcttgatt ttttagtctt atttccttag tgttattatc 720
 atacctcccc tgatatatgg ccgtacttcc tggccctggg cttgacattt cccacccttc 780
 attctccata catatgagat gtcagaaaac atgcagtaat tgatattatg ggacacattg 840
 gaaaggattg aatctggaat tagttctgtc cactgtggag gggagaggaa ataatgctgt 900
 aatgttgag ttacagaaag tccaatgtca aatatagttt tttgtttcc tttcaaatgt 960

attacagact gtgccaaaac agttaccaat tcacactgtc aatattaaag tataccatag 1020
 tatacaaatt agtcagtact tgctgttaat tttaatatit ctgatttaac agttagtatt 1080
 taagtggtag ttcatgtctg ttttagccaa cgttttaaaa ataatttggg agtttgacta 1140
 ttttggctta cgtactcatt tcctttttctc tgctaaaaat gttttgcttg tgtgcgttcc 1200
 tgatttttgt cttgtataat cttgatcttt gaaaaccctc aaacatgtat taaattgttg 1260
 taactttttt tcattagagg gaagacatta aggggattgg ggacatttgt ttcacacatc 1320
 tgcagtaata tgagttaact aatatttaac aagctctttc tttacattag ctgctgttct 1380
 catttgtatg tattgtcata tttaatcctc agagtaacct agtgaggtaa atactgttgt 1440
 tgtcagcatg gtgtaatcga ggaattgagt gagttgagca gaaaagttag gaaacttgct 1500
 cagggtgata atacagttag gagtgtcagg gcccatggac aaatcttgct agtctccaga 1560
 acctaagata tactacgtca ctgacagctt gaacatttgt atttattgta cagaataaat 1620
 ttaagaaaaa t 1631

<210> 543

<211> 1948

<212> DNA

<213> Homo sapiens

<400> 543

atatccttca tctttatgct gctccactcc agctcacagc ccctccaact ggatggagct 60
 cttcgaaggg aggggcattt cagaggaggg tctcagggat agcccccttg tggggctggg 120
 ccaccaggtt ggggagagtg gagctgctgg aactctggag ggactggctg agccagcttt 180
 cccagtgcac ccctctggga gggcgggctc tcggtgtagg ctgcccattt cctcgctctc 240
 ctctggcact gctcctatgc ccccttggtt agcctgggag cccatactac ccagacttgg 300
 ggtcaataag cagaggacct gtaaggagtc cttgatggga tgtacagcac tgcccaaccc 360
 tgcacaaggt agggatttgc tgtttgttgt gtggtgagct gcctgcttat ggctgggttt 420
 gggcctccat ccatttttat tttctttgag ttggtctctg ggcaaagctt ctcccagcag 480
 gcggaatctg gcctgggggc tccagcttct ctcacctgcc tggcctccca agagctagag 540

agctccacat ctcaactcat ctataactca ttagcagaac catcagctag cagaaactag 600
 gaataataaa aatgtgccgt attttcacaa gctggatgcc aggcttggtg gtcaggacac 660
 agactgcttt cagctccac atgcccctcc tgctagctgc tttgtgcaga gtagtggcta 720
 catggctgca ggtgagagcc ctgcctgtga acaggccacc aggatgctgg gacatacagag 780
 ttgataaccc atgggctcct gagagcagag attgtgactt actcatcttt gatgtagcca 840
 agttctaaca aacctaaatg tgcagccatt tgtaagagag gatcatggaa tgaatacggg 900
 cattgagtca agcagtctgt gttccactgg cgggtgtgacc tggggcaggc catttcacct 960
 cactgagcct tagtttctc accgttaaaa tgtgaaaaat atcaccttcc ttaccaggct 1020
 tttctgagga tttaatgaca tcatgttcag tgcccagtat ggggtggataa taccaggag 1080
 tttcttctc tttctctcct aagttgactt gatgcccccc gctgaagatc atggctgaac 1140
 tggtcaatt cggatccagg actcctggct ttgtctcttc cctagttgcc caccacaccc 1200
 atggacaccc ttaggtagtt tacccttttg ggacaactgg atttattaga aaagggtatt 1260
 ctgggggtgga ataaggccct tttcagtcct catggagcct ttttgaaga tgaagttctc 1320
 aaaccacaa gagaattcat aagacgagca caccaccac agttaggttt ccctctcaag 1380
 tgctttatct ccacgtgggg caaatagctc tttgtctgca tatgttattg gagcttttgg 1440
 agtccagcct tcagaagagc tctaattttt ggattcatat cagtttatta gagaagccta 1500
 gttctaagga ttagcaaatg ggtaggtgct cagccagccc agaacaagca gagccatgac 1560
 agaagtttct ggaatctcac agagtcggtg tcttcatgga ctcagggggc ctaaattcaa 1620
 tagcctggat ttgtcacttt cccttattcc cttatcaaac tcttcccttt tggacatcag 1680
 agaaggaaag tacttcctgt aagggggcaa tttgcaaagc ttcattggaag tggcatttga 1740
 gtgtggcctt aaaggatgtg taggattggg aaccatagat atttagagga aggcattcct 1800
 ggcagaagga acagcagcaa aacactgaag tggaaattag tagcagcatt aatggagaat 1860
 aatttgggga ataagatata caaatggaat aataaaaata gcattaatta aacattgtgg 1920
 gagtcattct gtaagatggc ccctgggtg 1948

<210> 544

<211> 1727

<212> DNA

<213> Homo sapiens

<400> 544

attgcacctt	cctaccaag	cagcttgggt	ttctttcgct	ttgaccctgt	aatttctttc	60
ccacttcgtt	gtcgtctctg	aattaccttt	ctcttgattc	ttgcccatta	gcatectcca	120
atttcagatg	tttgtagatc	ccaagtgtt	cccagggaaa	actactagaa	aaggtcaagc	180
tgatgcaaga	gatggtttcc	catggctctg	ggcagctcca	cccctgtggc	tttgcagggt	240
acaatctccc	tcctggctgc	tttcatgggc	tggcattgag	tgtctgcagc	ttttccaggt	300
gcacagtgca	agctatcggg	ggatctacct	ttctggggcc	tgtgatgaga	agggctgccg	360
tgaagacctc	tcacatgccc	tggaggcatt	tttctatttg	tcttggggat	taacattcgg	420
ttacttggtt	cttacgcaa	tttctgcaac	tggcttgaat	ttctcgtcag	aaaatgggat	480
ttttcttttc	tatcacattg	tcaggctgca	aattttccga	acatttatgc	tctgcttccc	540
ttataaaaact	gaatgccttt	aacagcacc	aagtcacctc	ttgaatgctt	tgctgcttag	600
aaatttcttc	tgccagatac	cctaaattat	ctctctcaag	ttcaaagttc	gacaaatctc	660
tagggcaggg	gcaaaatgcc	actaatctct	ttattaaaac	ataacaagag	ccacctttgc	720
tccagttccc	aacaaggctc	tcattctcat	ctgagattac	ctcagcctgg	atttcattgt	780
ccatattgct	atcagcattt	tgggcaaagc	cattcaacaa	gtctctagga	agttccaaac	840
tctccgacat	tttctgtctt	tctgagccct	ccaagctgtt	ccaacctctg	cctattacaa	900
agttccaaag	ttgctttcac	atttttggct	gtcttttcag	caacacccca	ctcctggaac	960
caatttactg	tattagtctg	ttttcatgct	gctaataaaa	acataactga	gactgggcaa	1020
tttacaaaat	aaagagggtt	aattggactc	acagttccac	gtggctgagg	aggcctcaga	1080
atcatggtgg	aaggcaagga	ggagcaagtc	acatcttata	tcaatgtcag	caggcaaaga	1140
gagcttgtgc	agggaactcc	tgttttgaaa	accatcagat	cttgtgtgac	ttattcacta	1200
ccacaagaac	agtatggggg	aaaccacccc	catgatttaa	ttttctccca	cagaattttt	1260
ccctcaacat	gtgagaatta	tgggagtaca	attcaagatg	atatttgggt	gggacacagc	1320
caaaccatat	caatcatcaa	acaagaaaag	agggaaactt	tcacaaccaa	gagatcccta	1380
aagaggatat	ctgactgaat	gtaatgtggg	atcctagggc	aaaaagaata	ttatgtaaaa	1440
acgaaggata	tctgaataaa	gtatggactt	tatttagtta	ataataatgt	gtcaataatg	1500
gttcattaga	tgtaacaaat	gcacatatt	gatgtaagat	gttcaaagta	gggaaaactg	1560

aatatgagta tatgggaact ttctttatct ttgcaacttc ttggtacatc taaaactatt 1620
ctgaaataaa aaaattttta aagagttgct tgaaccttta ttctaacatt tccttaaaca 1680
agcctcacca ttgacctttc ttttaaaaca ataaattcct tttgctt 1727

<210> 545

<211> 1521

<212> DNA

<213> Homo sapiens

<400> 545

agcttccggc acggccttca agcgcgggac gcgacaaagt catggaccgc aaccctctgc 60
cgccgccgcc gccgggtcgc gacaaggagg aggaggagga ggtggccggt ggagactgca 120
tagggagcac ggtctacagc aaactctggc tcttcggcgt cctcagcggga ctcattcaga 180
ttgttagccc tgaaaacacc aaatctagct cagatgatga ggagcagctg acggagcttg 240
atgaagaaat ggagaatgaa atttgcagag tatgggatat gtcaatggat gaggacgtgg 300
ctttatttct ccaagaattt aatgctcctg atatattcat gggagtactg gccaaagtcca 360
agtgtcctcg attaagagaa atctgtgtgg gaattttagg taatatggcc tgtttccagg 420
agatatgtgt gtccatcagc agtgataaaa atcttgggca ggtgttattg cactgtttgt 480
atgattcaga cccacctact ctgctggaaa caagcagggt gttgcttact tgcctttccc 540
aggcagaagt ggccagtgtt tgggttgaaa ggatccagga acatccagct atttatgata 600
gcatttgctt cattatgtca agttcaacaa atgttgactt gctggtgaag gtgggggagg 660
ttgtggacaa gctctttgat ttggatgaga aactaatgtt agaatgggtc agaaatgggg 720
ctgctcagcc tctggaccaa cccaggaag agtctgaaga gcagccagtg tttcggttg 780
tgccctgtat acttgaagct gccaaacaag tacgttctga aaatccagaa tggcttgatg 840
tttacatgca cattttacaa ctgcttacta cagtggatga tggaattcaa gcaattgtac 900
attgtcctga cactggaaaa gacatttgga atttactttt tgacctggtc tgccatgaat 960
tctgccagtc tgatgatcca cccatcattc ttcaagaaca gaaaacggtg ctagcctctg 1020
ttttttcagt gttgtctgcc atctatgcct cacagactga gcaagagtat ctaaagatag 1080

aaaaagatct tcctctaatt gacagcctca ttcgggtcctt acaaaatatg gaacagtgtc 1140
agaaaaaacc agagaactcg gcagagtcta acacagagga aactaaaagg actgatttaa 1200
cccaagatga tttccacttg aaaatcttaa aggatat ttt atgtgaattt ctttctaata 1260
tttttcaggc attaacaaag gagacggtgg ctcagggagt aaaggaaggc cagttgagca 1320
aacagaagtg ttcctctgca ttccaaaacc ttcttccttt ctatagccct gtggtggaag 1380
at ttttattaa aatcctacgt gaagttgata aggcgcttgc tgatgacttg gaaaaaaact 1440
tcccaagttt gaaggttcag acttaaaacc tgaattggaa ttacttctgt acaagaaata 1500
aactttattt ttctcactga c 1521

<210> 546

<211> 2521

<212> DNA

<213> Homo sapiens

<400> 546

tttaaaggta agcttgactg cactcattta atttgcctct ggagtcagga gtttacaatt 60
cttcctctgt atctattaat aagcagtttg actaatatta ctagaagctt taatctttta 120
ttttggcatt tg tttttgcag atgctctacc catggtaccc caggaccaga aggcaaccat 180
atttcagatt taccacttct agacagtccc aagtaagggtt aattgataag ttatgggcct 240
ccaaagctaa gttgctgctt agcattgaaa acattaaggc tgagtgcagt ggctcatgcc 300
tataatccca gcactctggg agactgaggc ggggtggatca tctgaggtca ggagttcaag 360
accagcctag ccaacatggc aaaaccctgt ctttactaaa aatacaaaac ttagctgggc 420
atggtggcgc atgcctgtga tgccagctac tcatgaagct aggacaggag aatcgtttga 480
acctggggagg cagagattgc attgagccgc gatcatgccca ctgtactcca gccggggcga 540
cacagtgaga ctctgtctca aaaaaaaaaa aaaaaaaaaa agaatagaag aatgttaaga 600
aatgggaat agtatggtat tgagtagaat gtattacttg taccctctcc gtactgtagt 660
ttgagttacc tttctgttca gttatgttgt ttctgctccc tccccatttc ctggtacttt 720
ccaaaatttt ctctctaata ctggtccaaa taaaacatta gttcttctgt ttttctgttt 780

ctcacctcat cattctgtaa tctctgcgaa agcttccagg ttcgctcatc gtaggtcact 840
ggaaaaaatt gtagcattgc taaagagtat ttcagagaaa attttgcattg caaaaattta 900
ggaagatgag tgaaactcat cattctgtaa tctctgtgaa agcttccagg ttcgttcatt 960
gtaggtcact ggaaagaatt gtagcattgc taaaaagtat ttcagagaaa attttgcattg 1020
caaaaattta ggaagatgaa tgaaactcat tattattatt ctttcagtcc ctggctatct 1080
tcttcagtga ctgctccatc catggtagcc ccagtcactt ttgcatctat tgtagaagaa 1140
gaactacaac aagaagcagc tcttattaga agtcgagaaa aaccgttggc tctgattcag 1200
attgaggagc atgccataca agattttattg gttttctatg aggcatattg caaccctgaa 1260
gagtttgtca ttgttgaaag gacaccgcag ggaccactgg cagtacctat gtggaataag 1320
catggatgct agttcactgt ggagttgaga tgcattttac ataattatga gtttgttcat 1380
ataaagaaaa gctgtggaaa agagtcttag agattttgta atatcattct aaatagatta 1440
agaaaagata taatttcttt actgcagtta aatcatataa tgtttgatg attaaaaata 1500
aatttctcag aattgtgatt ttagtaactt tatataaaat gtgtgagaca aaaacttatt 1560
aaggttaaat agaattgttt cttctgaata atctaacaaa ggaaaatata agtgattgaa 1620
tcataagata taaggggggt aaagtattaa aaataacttt ttgtttgat aacttgagaa 1680
tttagaagat ttgccaagt atgtgttggt gcttgacttc ttaaataatgg cattgatgaa 1740
tttaaagtag gagcatcagt tattacttct gattcattaa tggccagaat tttgtgtttg 1800
gtgtaatagt tgtgtcacca ttcttggtgc tttttaaaaa tcaggctaata catgtggtcc 1860
atgtctcttc aaagcttgac ctgcacaaat gccatatctc tatttgacc acatattctc 1920
cattttgcat tgagcagtag agtacagtgg aaagggaata agaatactga ttattctgaa 1980
cagtttagtc ccaagagaat agcgttttta aaaagaaaaa caagatttgg agtcattgtg 2040
ggttattttt ggtgggatgg aggatcttaa aaatgcctaa ttgtgagaga atcaattgct 2100
gaaagtgtta aaatttctga aaataaatgc ttaattacat atacaggaat taaatagttt 2160
ggaagagggt tggattatca ttacctttac aatactgtat aatcagaagt tctctgaacc 2220
tcaattgtat atctagacat aaaaattggt ttctgtatag gatgttggtt ggtttgtttc 2280
tgagtgttta aattttgcaa aaacaaatgt taaatttggt cttcagtacc tagataaatt 2340
ggaaaggtta atgttctagt ttctggaagg taagcctggg agacacataa gcaattcact 2400
gctataattt agttgatgta aaatgacgga aactgactca atatgtcagg ttttaactctg 2460
cccaaaagca gcagacatgt aagcagatgt gcaataaaaa atgatcttga tccatttcac 2520

t

2521

<210> 547

<211> 2956

<212> DNA

<213> Homo sapiens

<400> 547

ataaatcaag tccgcggggc atggaggctg ctgtcgctgc agcagctcag cttgcccggg 60
gcgggaactc cccctttctc ctttcgcctc cccagcaccc acacctgtc tcccccttaa 120
ttcttcctg gataatagca ccctaacgac aacagtcata ataatagggt tagaacgacg 180
ggggaggaaa actcaacagc ctaaatatct ctgaaaactg catcgcaaaa tggaagaaag 240
aggggggtccc actactgttt caaaagagag ccatggaagt caaatgtga ggatggtggc 300
atcataggat gaatggagct gggttcttga aacactgcct ggaggaaaga cagcaaaaat 360
gcctcatgaa tccaactgga ctgttaggat gctcaccctt ggagaccagc aacaatgtgt 420
gcagaaaccc aggccatgtg gagaggcccc acatacgtgt ccaactgagg tcccagctga 480
cagctggcat tgacataatg ttcactctgg gggaagccag ctgccacgct gtaaggacac 540
tcgggcagtc ctatgaagag gcccggtgtg tgagaaagag aggcctccag ccaacagcca 600
tagatgggggt cttgctatgt ttcccagttg gagtgcagtg attattcaca gacatgatec 660
cactactgat cagcatggga gttttcacct gctccatttc ccacctggga ggtcatcata 720
ttgatggcga gctaagtgtg gacacctgat cagcatagca cagtacagcc cagaaccctt 780
gggctccagt gatcctctta cttcagcctc ttgagtagct ggaactacag gcctgcacca 840
ctgcacccgg ctagtttggt tttgttagag ttttgtctct aggattttcc tcagctgagt 900
atgtgaaggc taacttctcc ttgtgaatct gcaaatatcc ttattttacc ctttatittta 960
ccatgtatca ttacaggta aatgatatact tagctgtgta ttgaatttct gttttttgtt 1020
ttttcttcag tactctataa atattactcc agtatcttct agcttctccc attttctcct 1080
agtgaatggt tattctgctc ttatctagca ggtgataaat ctgtcaacag atagtttttc 1140
ctttttgttt tatgtgtaag ttgttatttc ttccttaaag ttcataatct tttcccat 1200

attctctaaa ttttagacta taaccaggat gtgttttaggt tgatatcttt gcttatctat 1260
tctgcctgga aatcaggaac ctcttccaat attcagactt gtgttttcag ctcagaataa 1320
ttattttatc atttgtttga ttattccttt agttgcactg gatcttagtt aaaatgccca 1380
ttctgattca aagtatctgg aaggcaagta tttgtcaact aagggaagg tgaccatgca 1440
tcattggttt tgctgagact acctggttta caccttcagg ctttatactt agaaaatatt 1500
gcatcatct tctggatcatg aagttacaaa cttcaggaca aaggctaacc agctaagact 1560
agcagagcaa attccaagaa cttggggctt taattaactt gaattgattt ggacttgccc 1620
tacctttaac ttcacactga gataaaaatt cccacattt tcaagccatt tttgagatga 1680
gtctcttatg gttgaaagca tcctaattta tacaacatcc ttttggtacc taactaaata 1740
ttcaccaata tttggcacat ttgttaaadc ttttgggtgtg tgcctcttct atgtaatgta 1800
aatatgggtct gaatatccat tcagaaatta tagttgattt gcaaaaataa ctactatct 1860
acctatatta attgatagtt attccttccc aaccttctt cactcttcca tatatataca 1920
gagtaaactc acatcattat gttgattaaa caaaatagca gtgaaatcag gatgttactg 1980
ctcattgtgc atttatttca attatggaaa aagccaacac tttactccct tatttaacac 2040
ttctgtagaa aagcagttga aataacctag tgtcattcta aaatgatttg tatactatgt 2100
agaccagaat ctagggctat acctaaaaat acataaatga aattattcta gaagttaaat 2160
cttcatgaaa aaacaaatta aatggtttac taacctcaag ctgattaaat gtttttatta 2220
aatgcagcct cagccagcac ctcttttcat ggctgcaata attaagtata ataaatattc 2280
aaatcagtaa ttgaatttgt taaaaaaaaac atgctcagct cagtgaagac tttctaataa 2340
atagaattca ggtaccatat tttcatactt catgacactt gcctcatctt agtttgatga 2400
ctgccgtttc ttgcaactga acaagatttt atttttattt tgttttacgc tattcaaaca 2460
aatacattca aagtcatagg ctacacctat gtataacat attctgagag ttggcttatg 2520
tgtttgttta ttttctcaca agtaaagata ggtcagatgt tgccaaatta gtaaataact 2580
aaacttgaga tgggaaatac tctagagaca caatctgctt agttttgcat agttttgcat 2640
agtttttagtc acttttcccg ttactctgtc cagctttcca gtaatactca taacattgcc 2700
ttgatttcat atgaccacgc agtaaagtga ttactgcact tagaattttg ttgcttttgc 2760
tgtgctaaca acttaaaagt ttaaaataac tgatgttcaa aacagtgaag atttcctttt 2820
ataaacaagt tggaaaggaa agtttttatg ttattatcct caagtattct aactaatata 2880
aaatgtcttt cagtctttta ggcaaaccat ttagacaaaa agtacaata ataaatttac 2940

atttgtttaa gctgcg

2956

<210> 548

<211> 1635

<212> DNA

<213> Homo sapiens

<400> 548

acgcttcctg tacagcctgc agaactgtga gtcaaccaa cttcctttta aaataaatta 60
cccagtctca gctaggtctt tctagcagtg tgagaacgga cacgtagagg gtgtgagagc 120
cagaagactt taaggagagg gacgagctgg ggcctggatg cccggggagg tggacctgga 180
ccaggacagg tgtcagcggg cagagatggg gcagaggtgc ggctgtctac ccgcgaccgg 240
ggccatgccc tctcgggctc ggttgaggag ctgctcttcc tccagaatgc gctcggacgg 300
aacgttagga aggccctggg gaggggcccc gacctcctcc cccaggactg gcttctccgg 360
ccctctgccc tttcgggcag aacagctcgt ggctcttcca ggacctgggg ctccatcttg 420
cagaacagct cgtggctctt ccaggacctg gggctccatc ttgcagaaca gctcgtggct 480
cttccaggac ctggggctcc atcttgacga acagctcgtg gctcttccag gacctggggc 540
tccatcttgc tgaggggtgc tttcttgaga ctcttaggg acgattctga tttccctgg 600
agctgtacaa tggcggttta tctttcaagg tcccctgggc ctgggctccg aggcagccac 660
tttccctgga gcccgtgaag gaggtttgga cgccagctgg gctgcctgcc tgtggcgggg 720
caggaatgag agctggcgcg gctggggccc ctgggtgcct ggtcctgctc tcatgacgcc 780
cacccttga accctgacat gggcgcccaa ggattctccc cgcaggctcg cagactcacc 840
tgatcaccgg gagatgtttg agaaggagcc tgtgtcaaag tgtaggcac agatgaaaat 900
ttaccttctt gttacctatg taaatgggcc gggctccacg aagtccttgg ctgagaacgg 960
tgccactgac cgactgagct cccgatcggt ctgagagagg cttatgtgca cagtggacgt 1020
ggaaggcttt gatgatgttg gtgaaactct ctctgacgct gtcagagatg gattggggac 1080
aatcctgcgg ggaggtgctg aggagggcag ctacgacaac tggccccaca ccaggaaaag 1140
ctgggggccc ctgagcccag gccaccaacg ggagctgtgg acccagcctg acccctggac 1200

cgaggtgctt tcagggcaca aggggggatgc gggagcctgt ggctgctgtt gcttctgctc 1260
 tcagttcata aacgcacgct gtgcacatcc cctgtgcttg gcaagggggcc tggatagaag 1320
 ggccagttag gagatgcccc tcctccaggc actgtgcctc ctcccaaagg tcagcacccg 1380
 gagcatcact gtgccctccc cacaaaggct agcaccccgga gcatcactgt gccctcccca 1440
 caaaggaaaa tctccatgat gccagcaggc gtgtccacag aggaaggggc gaagaaaatg 1500
 tcgaatggac aggcgacctg catcctgccc agctcggaag aggaggacgt cctgagattt 1560
 gccacagcct ggaggcgatt gcgctcgtga caaaagccag acacagaaag acaaatacca 1620
 cgttctaatt tgtgc 1635

<210> 549

<211> 4400

<212> DNA

<213> Homo sapiens

<400> 549

tctgctagaa atgcaaataa cagaaggtagg agggggtagg gaacatgcct tccagattat 60
 tcctgtgggt actgatctgc tagctaaatt gagatgtact ttatcaggct aaatggcttt 120
 tctctccccg atcttttatt gtttgtgatg gagttgtcaa atatttgcat gcaatataaa 180
 tacaattttt aggcagcggt gtgatatgga tggcgcctgt atttaccagc tcagcactgc 240
 cagtgaagaa tgtagaagat aaacctgaac aacaaccag aacaagagag actgacaaat 300
 caccaccag tactgagcct cgacagcaac caagtcctt atttgctaga ggaaacagga 360
 aagcgtcaa aagtcccaa agatcatcga gtaaaataaa agaaaacaag catccatttg 420
 ctctttatgg ctggggagaa aaacagaccg atacaggaag ccagaagact cacaacgtct 480
 gtgcgtccgc tcctgtgcac gagattcatg aatcagcatt acgagccaag aacagaagac 540
 aggtggaaaa aaggaaactg gttgctcaaa ggcaacgagc tcactctgtg gatgtggaga 600
 agaacagaaa gatgaaggct tcctcctcag agaaccatg gatgacagaa tacatgaggt 660
 gctattcggc aagagcttaa agaaacactt gcgtggacag cctcttttaa aaagtgtaaa 720
 tgactgaaag gaaaaacaaa aaaaaacca tcaaaagaaa cggacacagg tttaagaac 780

caactgatta tgcaaggttt tttttaggga atttgtaaaa gattgtttta ttttgatgaa 840
tattggtcac ctacctcggc agtagggcag acagttgaag ccatagacat ttggttattt 900
atgaagataa ttcctaaat ctttgacatt cttataaggt ttttgtttta aagcatctta 960
atcttttaag atactgacac caaatgcctt taaatggcaa cagatgctta cagttcagta 1020
ttcttttcat aagcttaggt agagcctatt atcatcttgt tctaaataac tttccagatt 1080
ccatagctat aagatcattc catcctacag cataagactc gttttcctta tatgccgttt 1140
tgttttgtaa agaatatcaa gtcaaaaatg agtgtcagca ctactactga ttccatgtat 1200
aatgaaagta gaactttgct agttcctgaa aatttttaac ttatttgtat ttcagttcag 1260
cagcatcttt atgtagattg tgatatTTaa gaattatctg ggctgggcga gggctctcttt 1320
ttctctttca gtgatcatct aggcagttat tatttaatag tttaatagct caagtacatt 1380
ccaatagacg aagtgcacac aacacaatat atgtgaacag tagtagtaaa gtttcttttg 1440
agtagtcaaa gactcacttt ttttattgcc tttttttttt tttttaaaga atacatactg 1500
tggattcagt cccttgtcac acttgacctt ttggcataca cccactgtgg acttttgcct 1560
cttctgtaat ggctggcaat gacatttcaa acttacaatc tggaattgca cttggtacat 1620
tggcattgct tgttccactg ggatggggac cagtgtgaag atgcctgtta gatagactgc 1680
ccaccctac tttctctttt tctttatagc acttaacaat aacaaagtct tgatgatgta 1740
cagtattcaa actttagggt gaaatacgtt actctttgat tcctagccag tagatcttat 1800
ctacacttta atgggagaga atgggtggtgt gtgggtaggc acaaatttat gtaaatagtg 1860
ctccttctct ttagtatgtt tgctttgggg gtagaaaaat ggttttaaca aacactgggt 1920
tccatcaaat gaatgatgtc ttctccatcc tgtggagaca agaacttgct agaaggatat 1980
gtgctaagtt cttataaga gataatgggt ctctgcctat gccagcttgg caccgaaga 2040
tgtgtgagt gacgtgaggc tgagtattac cttagtattt ttctctgggt ctttgaaaaa 2100
ccatagtcaa tttttagaac atattgcttt cattcccat aaactcttca cacatgataa 2160
ctgtttaagc tttgaaaaca catactgaag tattgtgagc ttaaaaaaac tttttaaata 2220
tttgcatagt tttgagggtga atttgtttcc ttacagatct ctccaatca ttgagatgta 2280
tatttcaaaa gaggaatttt tacatgttgt ccaaaacagc cttgctagta actggatgaat 2340
tttggtatta actattatta aagtctttta acgacacagg tacctaaaga tcaccttaat 2400
gtggcaattt gtgatggtgt agctagctga ttgtgaaaac tgttccttta aagtcgcttc 2460
ttgcatgttc ggtgttagtc atccagctca ggcttgtgtt gcagctgaca atctaggaaa 2520

gacggcctta gagagtgggtg caggccccac actgacggac tgccttagaa acccgacttc 2580
ctctagactt tgaaccgcca gacttttctc ttgttttagaa aacaaactta tatttaaatgt 2640
acttactact taaaactcca gacagagata taatgtagaa ggcaaatttt ggccaatttt 2700
ttcctctttt taagtggaag acaaatgaac gggattttta aagtgccttt aaagtgcattg 2760
aatggttaat aaatcagtat gaattgtaag ccttcatctt acatccaagt ccttagttgg 2820
ttagggtttc ttttctttct tttttaaaga gtgtcaatta ccttttgaac ctgtgaaaat 2880
ttgatagttg ttaacagtct gatggtccta attctttctt ttcattctag aaatgaatgt 2940
ggttgtaatc atgttcctaa ttcttgggac aacctgcaag acagtgagac agtttaaaaa 3000
ttacctttca tgttgaaaaa gtctgaaaca gagaacccaa tgatatttaa aataaatgct 3060
acataaaaact ctttttaaaa ttttgatttt aacttaatta aaacaatgct ataaatatgc 3120
tttttgattt tgttactgct tttaatatta aagtaataga atattgaagc aatattgtct 3180
agcactctgc tggacattaa gtccgcggga ggagaagtga acaggaatcg attctttgtc 3240
ttttaactgc ccttagttag gagatgttaa aatacttggc acctctgggtt atatgtatgt 3300
tatgtgtgtt ctcccccta aaatttctaa gcacatttat tcacttttaa aatgaatctt 3360
taaaagatta tagttagtag ttatagttaa tattctattt acttggaataa atgtgaataa 3420
atggatcttc aaaagattca ttttaaaaat gaataaatgt ataataaggct ataggtgatc 3480
ttacttgcgt attaggtagg aggcacatat ttataccatt tcatatgtaa tatctttgtc 3540
attgtgtttc atcgaagatc aattgctagc aacttgaagg gtattttatac ttgggtcact 3600
tgaactcagc tgactaaatt gtaagaacga gagcaagcaa gatggctgtt attggaagcc 3660
ataacttcca gaagataatt ctgcacaatt cgtaagttaa aaaaaatctg tagggctctc 3720
cactatcctt tttcaggttg ataatgctgt tctgggcaca cactttgtaa atggaatgtt 3780
atggtacagt cgcctctcag tatccatggg gcattgggtc caggcctccc ttaggatgcc 3840
aaactccatg gatactcaaa ccccttctat aaaatgggtg agtatttgca tatatcctag 3900
acacatcctc ctgtatgctt taaatcatct ctagattact taaaatacct aatacaatgt 3960
aatgctctg taaatagttg ttatactata ttgttttaggg aataatgaca aggaaaaaaa 4020
agcctgtaca tgttcagcac aagtgaacc atcctttttg cccccaata ttttcaattt 4080
gtatttgggtt gaatccatgg atgcagaact cacggataca gagggccgac tgtactttct 4140
ttaaagtgtt caaaagtatt actagcaaag aggaggagga gcaaagcata tatcagaagt 4200
aaaacaattt ttcttgttga ctgcttttgt aaaaaacagt ttgatggata gttttacatt 4260

tcactggact agataaaaaa tgggtgcta atttatgtag ctgatgcta tagttgcttt 4320
ggtatcaaac ttaataccta acccatataa gatccttatt atataatatt gtgatcagta 4380
aatgatatt ttaaagagtg 4400

<210> 550

<211> 2176

<212> DNA

<213> Homo sapiens

<400> 550

cacatccgat gtgcctaaac aatctgttct tgtttcaaag caccacttgg aggctgcgga 60
agatacccggt gtaaaggaaac cactgacttc agcaaaaagc aactatgctc aatttatatc 120
taatacatca gcaagcaatg ctgataacat ggtttctaataaagaaatgc ccaaggaacc 180
tgaagacaca tatgcaaaag gtgaagactt tacagtgact agtaagccag ccggactttc 240
agaagatcag aagactgcct ttagtatcat ttctgaaggc tgtgagatat tgaatattca 300
tgctccggcc tttatttctt caatcgatca ggaagaaagt gaacaaatgc aagataaatt 360
agaatatttg gaagagaaag cctcatTTaa aaccatacca ctccctgatg atagtgaac 420
agttgcttgt cataaaacat taaagagcag gttagaagat gaaaaagtta cccattgaa 480
agaaaataaa caaaaggaaa ctcataagac aaaagaagag atatccacag attcagaaac 540
tgatttatca tttattcagc ccacaattcc cagtgaagag gattattttg aaaaatatac 600
tttgattgat tataacatct cccagaccc agaaaaacag aaagctccac agaaattaaa 660
tgttgaagag aaactctcaa aggaagttac agaagaaact atctctttcc cagtaagttc 720
agtggaaagt gcactagaac atgaatatga ctgggtgaaa ttagatgaaa gtttttatgg 780
accagaaaag ggccacaaca tattatctca tccagagacc caaagccaaa actcagctga 840
caggaatgtt tcaaaggaca caaagagaga tgtggactca aagtcaccgg ggatgccttt 900
atttgaagca gaggaaggag ttctatcacg aaccagata tttcctacca ctattaaagt 960
cattgatcca gaatttctgg aggagccacc tgcacttgca tttttatata aggatctgta 1020
tgaagaagca gttggagaga aaaagaagga agaggagaca gcttctgaag gtgacagtgt 1080

gaattctgag gcatcatttc ccagcagaaa ttctgacact gatgatggaa caggaatata 1140
 ttttgagaag tacatactca aagatgacat tctccatgac acatctctaa ctcaaaagga 1200
 ccagggccaa ggtctggaag aaaaacgagt tggtaaggat gattcatacc aaccgatagc 1260
 tgcagaaggg gaaatttggg gaaagtttgg aactatttgc agggagaaga gtctggaaga 1320
 acagaaaggt gtttatgggg aaggagaatc agtagaccat gtggagaccg ttggtaacgt 1380
 agcgatgcag aagaaagctc ccatcacaga ggacgtcaga gtggctaccc agaaaataag 1440
 ttatgcggtt ccatttgaag acacccatca tgttctggag cgtgcagatg aagcaggcag 1500
 tcagggtaat gaagtcggaa atgcaagtcc agaggtcaat ctgaatgtcc cagtacaagt 1560
 gtccttcccc gaggaagaat ttgcatctgg tgcaactcat gttcaagaaa catcactaga 1620
 agaacctaaa atcctgggtc cacctgagcc aagtgaagag aggctccgta atagccctgt 1680
 tcaggatgag tatgaattta cagaatccct gcataatgaa gtggttcctc aagacatatt 1740
 atcagaagaa ctgtcttcag aatccacacc tgaagatgtc ttatctcaag gaaaggaatc 1800
 ctttgagcac atcagtgaag atgaatttgc gagtgaggca gaacaaagta cacctgctga 1860
 acaaaaagag ttgggcagcg agaggaaaga agaagaccaa ttatcatctg aggtagtaac 1920
 tgaaaaggca caaaaagagc tgaaaaagtc ccagattgac acatactgtt acacctgcaa 1980
 atgtccaatt tctgccactg acaagggtgtt tggcacccac aaagaccatg aagtttcaac 2040
 gcttgacaca gctataagtg ctgtaaaggt tcaattagca gaatttctag aaaatttaca 2100
 agaaaagtcc ttgaggattg aagcctttgt tagtgagata gaatcctttt ttaataccat 2160
 tgaggaaaac tgtagt 2176

<210> 551

<211> 3641

<212> DNA

<213> Homo sapiens

<400> 551

actttctttc aggaaaacgt agatttgggc tttagagtta gatgggatag agcagaatct 60
 aggggatttt tgagggacgg tgcttccaag tttgtgtcac cggtgtgctg aggaaggac 120

cggtcttgct ggaaaaagtc agattgcgtg gtgtttggta gcaagaaata ccaggcggta 180
tcctggccgt ttcagaaacc acaggaaagg aaagaggctg gctttgcagt cgggagggca 240
ggcactggat ggacgttctt gtaatgtttt ctactctgg gagagtccgt ttttgtttgt 300
ttttttgttt gaactgtggg aagcacattc cgtttttgat tccccaaact tcaggacatt 360
catgttctgg cgaggtttag gagacaaact tccttcgtct ttagccagtt tgcttaactt 420
catctgagtt tgggtttcca atacttatct acaggaatcg ccatgacccc agctctgagg 480
gaggcaacag caaagggtat cagcttttca tctttgccaa gtaccatgga gtctgacaag 540
atgctctaca tggaaagtcc cagaactgta gatgaaaagc taaagggaga caccttttct 600
cagatgcttg gatttccaac tcctgaacct actcttaata ctaattttgt gaatttaaaa 660
cattttggct cccctcagtc ttcaaaacat taccagactg ttttttttaa tgagatctaa 720
ttctacatta aataaacaca atgagaatta taaacaaaag aaattagggg agcccagttg 780
caataagctg aaaaacatac tgtataatgg cagcaacatt cagctcagta aaatctgtct 840
ttctcattct gaagagttca tcaaaaagga gcctctatca gataccacga gccagtgcatt 900
gaaagatgta caaattattc tggattcaaa tataaccaa gacactaatg tagataaagt 960
acaactacaa aactgtaa at ggtatcaaga gaatgcactt ttggataaag ttactgatgc 1020
tgagattaaa aagggtttat tgcactgtac tcaaaaagaa attgtacctg gccactcaaa 1080
tgtgcctgtt agttcttcag ctgctgaaaa agaggaggaa gtacatgctc gtttacttca 1140
ttgtgtaagc aaacagaaaa ttttacttag ccaggctaga agaactcaga aacatttgca 1200
gatgctcctg gcaaagcatg ttgttaagca ctatggctcag cagatgaaat tgtctatgaa 1260
acatcaactc cccaaaatga agacatttca tgaacctacc acaattttgg gtaatagttt 1320
acctaaatgc actgaaatta agccagaagt taacacattg actgcagaga ataaattgtg 1380
ggatgatgca aaaaatggct ttgcacgggtg tacagctgcg gaaatccaaa gatttgcatt 1440
ttctgctaca gggctgttgt ctcatgttga agagggtttg gattccgatg caactgatag 1500
cagctctgat gacgatttgg atgaatatac ccttagaaaa aatgtggcag tgtaagtgca 1560
aaattattat tagactattt tctgttccat atatagcagc aattatctta gtttccagggt 1620
atgttgacaa gaaatagatt ttctaaaatc ttaatgctat aatctttttt ttttttttta 1680
atttttattt ttgagacaga gtctcgctct gtcgccagg ctggagtgtg gtggtgcaat 1740
cctggctcac tgcaacctcc gcctcccggg ttcaaacaaat tttcctgctt tagcttcctg 1800
agtagctggg attacaggtg tgtgccacca caccagcta atttttgtat ttttcgtaga 1860

ggcaagggttt caccatgttg gtcaggctgg tctcgaactc ctgaccttgt gatccacccg 1920
cctcggcctc ccaaagtgcg gggattagag gcgtgagcca ccacatccag ccaccataat 1980
cttttatgtt ataaaacttt tgttgaattt ttttaatgtt ttgtttgtta aattattgtg 2040
tgtgagtata tacatactat ttaaaaataa atttactcaa cttttctatc taggaaaaac 2100
ccatacagga ataatgaaat tattgagcta taaataagca tattttctat tcttgaatag 2160
gctgtggaca aggcctaate tttgtttaag tgatctagtt aatatgtgta tctaactaaa 2220
aaacttttagt ctgcacatag ggagccctca ttgtctttgg gagtgtatca gttgagagta 2280
catgtaagtt gacttactac tttttttcct taactctcta ctcgtactca tagctttcag 2340
aactgacctt taacaattca gttagttttt gctagcttag tataactaaa acaaaactat 2400
aatgtcagct gtaagatate tattgaatgc ttattatgtg ctagacacta agattcagtt 2460
gtgagcaaca tattcacaac ctctgccttt tggggcatgt acttgagaga gaggtatctc 2520
gatattgaat aataaaaagc agagaaaaat agtttcagtt atcacaccgt gataacacta 2580
cagaccaact ctgtccaata gaaacttctg agatgttggg aatcttttat gtctatgccca 2640
tctaataaggc actagactta tgtggatatt aaacacttaa gatttggcca gtgataactaa 2700
ggaaatgaga ttttaatttt atttaattga ctaaatttta gttgaaatgg tcagataaag 2760
cataattttt aatttagttt tcaggggatc tattactgtc cccaaattga tgtgaattat 2820
tgtttgtata tatagcattt tgggggaaag aagtctgtca cacatggata catacagggg 2880
cacaacactc actggggcctt tttaaagggg gcaggggtggg agggggggaga ggatcaggaa 2940
aaataactaa tgggcactag gcttaaaacc tgggtgatga aataatctgt ataacaacc 3000
tgcatgacac agatttatct atgtaacaaa cctgcacttg taccctgaa cttaaaagtt 3060
aaaaataaac tttttcaaat tctcaaaaat aaatgagaat tacagaatta gaagccaaac 3120
acattgatat ttactatgaa atagaagatc agtatattag tttttatagt gagaaataaa 3180
atataaagca aagtaagcat tcgggtcttc tagtgttctg atatcactgt aattgaaatt 3240
tgtttgcatg tggaatttat agtagttaat aagcgcagat ttttttctg gctggcattg 3300
tgctagttat ttaacatatg atatctcatt taattctttc aacaacccta gcaggtagtt 3360
gttatcctta tttcacttaa gaagaaacag actcagcatg ggttaaataa tttaccaatg 3420
gttaaaaagc caagtaaggg gcagaaacag gattttgctc atatatatga ctctaaacac 3480
atacttattc tcttgaata tgctgttttc tcaacattgc atcactgata cttagagcta 3540
caagaattat taggtacatg tgttctgaaa gaagtctgaa aatttaccaa tttttgtata 3600

tacaatgctt gtgaagtatt taaataaaat gtagtgggca c

3641

<210> 552

<211> 2650

<212> DNA

<213> Homo sapiens

<400> 552

atttttagta gagatggggt ttcactgtgt tggccaggct cgtcttgaac tcctgacctc 60
atgatccgcc tgccttggcc tcccaaagtg ctgggattac aagcgtgagc caccatgccc 120
ggactagttt tgttatTTTT atgcagctac aaggaggaaa atgatacata cttttcatta 180
ctgaagatgg aaagatgtgt aagttagata agagaaaaac agatcctgat gaccttcctt 240
ccaacataaa ccacctgtca gaagacgggtg caggagagact caggccaaag ggaaggtatc 300
tgtcagcctc tcctctgact aaaactcccc taggaggggc agaggtcagt gtaaaatatg 360
tattttttga gacagagtct cacattgtca cccaggctgg agtgcagtgg tgcgatctca 420
gctcactgca acctttgcct cagcctccct agaagctggg attacagggc atgcaccacc 480
atgcctggct aatttttgta tttttggtag agactagatt tcaccatgtt ggccagggtg 540
gtctcaaact cctgacctca aatgatctgc ccgccttagc ctcccaaagt gctgtgatta 600
caggcgtgtg ccaccgtgcc cggccatagt gtaaaatctt tattcttcag tgtggtttat 660
cccaattcca attatacatt aggtctaaaa caaaactcag gccttgggaa ttccaagctt 720
tgccctagag tgaagcccat tcccttgctg ggattgttct ggggacagaa gctgcatagc 780
tactgtcct gtggagtga gggaagctat ctttccacac tgggtccagc aaggggtgca 840
gggccgggag cctaggctgg gagagtgaag ctgggccaga tagactcaa cagtgcagct 900
ccctgggctc acaggaggtg gctggcagga ccaagtaggt ggcctaagc ctggcatcaa 960
ggtggggcgc tcccgggctc agctgccact gaaggtggag gtagaagagg tcacgggtgcc 1020
tgagggtttt gtccagaagc tcaatgacca cctgctcttg gtgtacactg gcaagacccg 1080
cctggctcgg aacctgctgc aggatgtgct gaggagctgg tatgcccac ttcctgctgt 1140
ggtgcagaat gccacagcc tggtaaggca aactgaggag tgtgctgaag gcttccgcca 1200

aggtgagggg cttcctctgg gggggtcagg gcactgggag cgagtattct gtcacttgtg 1260
 ggtttgaggc cagggtcac tgcaggcttg gcacaagctc cagatattcg gcctctggga 1320
 acagaagcct actgtctgtc ctctccaggg tctcacattt aggggagagc tacatctgag 1380
 gacaaaattt tcatcatggg aaaggccctc cagccctaac aggaagcaga gaggggaagg 1440
 gactcaacc atggctgagt tccaaggaag tctgagctgg gcagggtccc cagtgtgtgg 1500
 cttcacagct ccctagatgc cgactatgct ggggtgtggg ttgggttgctt cctgcacatt 1560
 ggtcctcagg cagtcctggg aagtgggtta ctcttggtc cagccgacac tggaatccgg 1620
 cttctttacc atgacactgg ctacagcaga cgtcttgga cttcatgcaa tctccagatg 1680
 ggtgctgagt atcttgccc aggcacgtca ctcccctctg cccacctca ggaagcctgc 1740
 ctctgctggg ccagtgcctg acctcgact gggagcagaa gaagctcatg gctccaggct 1800
 gtgagcccct gactgtgcgg cgtatgatgg atgtcctggc cccccacgtg catggccaga 1860
 gcctggctgg ggcaggcggg ggaggctttc tctatctgtt gaccaaggag ccacagcaaa 1920
 aggaggcctt ggaggcggg ctggccaaga ccgagggcct tgggaattac agcatccacc 1980
 tgggtgaagt ggacactcag ggcctgagcc tgaagctgct ggggaccgag gcctcaacct 2040
 gttgcccttt cccatgaagc tggcttctct ctgcaacagg agaaaacctg gagctacagt 2100
 gtccccacc ttccttgccc catgggaacc tccacctcct actccccacc cacctctgcg 2160
 aatctgtctc caaaggaagc tgaccggagc aagatctggg caagcagaga gtgcctggga 2220
 caggactgtg acctggtgga caggggccta gatgtagcct ctgttcctcc tggacatagg 2280
 aaggccccaa gcttagtata ccacgtggcc tttaaaatc ctatggctgg ccttctcatt 2340
 ccacaagggc cctggaaagg gttgacagcc agccttgga tatggctggg agtccttag 2400
 caaggccaac cctgaagagg ccctttgagg cattccctat ggcttagagt tgtagactta 2460
 cactcaacc tcatgtgagc gtgggagtga ggggtggcgg cccttgccaa gttggttagca 2520
 gtgaccaggt gattcactgc catcccaggc cttactagc aaaactacgg agcgtgcca 2580
 gtgacctggt gcctgtggga agtgggttct caggactggc attcttgga taaattcact 2640
 ctgtccttgc 2650

<210> 553

<211> 2262

<212> DNA

<213> Homo sapiens

<400> 553

attgctagaa	ttgttggcaa	cagtgcagca	gcagcgatga	cagcaggtag	cgccccatttt	60
gccatgtgca	ggcacggggt	tgttttacgt	tcattcattt	aaccaatgg	agagtatctg	120
tgttccaaac	atcaaaaagg	gacagtaaaa	atacggtcct	ataggactgc	cattgtatac	180
atggtctggt	gttgactgaa	aggtcattat	gtgacatgtg	actgtattat	ccttggcccc	240
ttttacaagt	gaggacacca	tggcccagag	gagtttagga	tgggccccag	gtcatgtagc	300
tggagagtgg	cagagccaag	gtgtgaatcc	cgcacctggc	tctggagccc	tgttctcagc	360
caccgtgctg	ggcagcccac	acctggcatc	ctctctgtta	ggagcagggg	cctgccccca	420
cgccctctct	gacattgcta	ttcttgctaa	aatgaagaga	cagagctgag	gggagagcta	480
aaaagaatga	atctggcctg	gcatcagaaa	catgctgctt	cccaccagcg	agttttgtgc	540
ttcactcttg	ggcccagggc	ctgcagggtg	tgctgtgacc	tcctctgaag	aagcaccac	600
acgggcaggc	cctgaggggc	tgcagcagag	ccacctgat	gcctctcgag	ccccaccgg	660
ccctacttat	gccttccatc	tgcaccaaca	ccgatgagaa	gcttgcacct	ccccagtctt	720
ccctggtttt	gctcgtagct	ggctggctgg	atccctgcat	ggattgccct	tggacaaccc	780
tttgtgccgg	atgacctggc	cgccgtgtat	tgagagcgca	cacagaccag	gcgctgtgcc	840
tgtggtgttc	ccccaatgca	tccgcatggc	agccccactt	tacacaggcg	gaaactgagg	900
ctggttaggg	gagtgtcag	ctgcaggacc	tcgtggccag	accccaggca	ggtcagcctc	960
caaagcccca	gctcttcccc	accccaccgc	ccaacttctt	gctggtttca	ggggaggagc	1020
ccgctgtgcc	aggccctcat	ctcgtgggtg	taccagagc	ccatgctgtc	tccccaggag	1080
ggcactgctc	agccgccttc	tctttctgca	ggccagaagc	acttgtgtgt	caccagcctc	1140
ctgatctgcc	agggtctgct	ctgggtgggc	actgaccagg	gtgtcatcgt	cctgctgccc	1200
gtgcctcggc	tggaaggcat	ccccaaagtc	acagggaaag	gcatgggtctc	actcaatggg	1260
cactgtgggc	ctgtggcctt	cctggctgtg	gctaccagca	tcctggcccc	tgacatcctg	1320
cggagtgacc	aggaggaggc	tgagggggccc	cgggctgagg	aggacaagcc	agacggggcag	1380
gcacacgagc	ccatgcccga	cagccacgtg	ggccgagagc	tgaccgcgaa	gaagggcatac	1440
ctcttgtagt	accgcctgcg	ctccaccgca	cacctccgg	gcccgtgct	ctccatgcgg	1500

gagccggcgc ctgctgatgg cgcagctttg gagcacagcg aggaggacgg ctccatttac 1560
 gagatggccg acgaccccga cgtctgggtg cgcagccggc cctgcgcccg cgacgcccac 1620
 cgcaaggaga tttgctctgt ggccatcatc tccggcgggc agggctaccg caactttggc 1680
 agcgctctgg gcagcagtgg gaggcaggcc ccgtgtgggg agacggacag caccctcctc 1740
 atctggcagg tgcccttgat gctatagcgc ctcccctctc ccctcagagg gcacagctgc 1800
 aggcctgacc aaggccacgc ccggctctcg tgctctagga cctgcacggg acttgtggat 1860
 gggcctggac tctccagaaa ctacttgggc cagagcaaag gaaaacctct tgttttaaaa 1920
 aaattttttt cagagtgttt tggggaggag ttttagggct tggggagagg gaggacacat 1980
 ctggaggaaa tggccttctt tttaaaagca aaaaacacaa aacctcaca ctgcctggca 2040
 agcccagtat cacttgtttg ggccctagcg ggactccaag gcagccacac gcccctcctg 2100
 gaagggtgtg tgcgtgtgag tgtgtgcgag tgtgtgggct ggtgtgtgaa tatctataaa 2160
 taagtatata tgggtgtatat tatatgtgta taaataaagt ctgtacatat tggagctctg 2220
 ggagatgctg gaataaaaga caagagttac atctggactt gg 2262

<210> 554

<211> 2060

<212> DNA

<213> Homo sapiens

<400> 554

gtgaaattca ggcatttgca aaaccagcta cctgtccctt tgcagactgg ctccatgcat 60
 ggaaaggcct tctactgatta gcgcaccata aaggcttggg gtcctctcaa acttttcctg 120
 gggatgccat cttccctggg cctgtgcata tgcattagtt ttagtttcct cctatacaca 180
 gctgcctttc agtttttctt agttttcctg agtttgcctc cagcttcctc ttggagtctt 240
 agctgttctg ttattctttt gtctctgata tcttgcccac aggtttctgt aggtctgtgt 300
 tcccctgcag ctctactcatg ccatgggtacc catcattgct ttcagctctt tccaacctcc 360
 tatccaaact atgccattgt tcccattagc actctgattc aggcaagaca gaaagcagtc 420
 ccttgggcag ctccacacaa accagaacat tgtaggtcag tttcattctt taccttatgt 480

cctgagggaa gagccagggt agttttcttc tgactattgt actgaggagg gcatttggca 540
agagtgagca aaaatgccat gaaatttcct gctactttga gtgtggcctt ttcttggata 600
ggtggttcct ttggttgctg ctcaactggg ttctagagtt ctcataaagc taaacatttt 660
taaatttttg gtccatatgt ttattcatta ttttttgtgg gggtttgggg gcctggagct 720
tcacagtcta tcttgctgac atgaaactac tttttatgtt caaaatcatt tttatagggt 780
atgctattaa ttgctagatt ggcattacga atgttacact tttagaagtc acttttttaa 840
aaaaaagtat ttgggacagt atagtttgtt aggtgggtgt ccacgagtga ctagctgtct 900
ttccatagggt ctggtttggg ctgttgtatt cacaagggtcc ttatgcctca tggacagtgt 960
gaattaaagt tctattatct agaaaaggac tgactgggtgt gctgatggaa agtcatctaa 1020
actgatttga tagcatgtat gaagtacctt gatgagactt cctactctgg aatcttatgt 1080
gtatatTTAA caaaaaagaa caatgtagtt tctttttgcc acttcagtct gggtttatgc 1140
cttgtaaag agtttgctgt gacacagaga atgtgaaact gctattttgt caggcagtgt 1200
tcctaaataa gcatttcagt tgcactacat atatgtgggt tacattccaa taaaccttat 1260
catatgttga gaatatcgta agtcaaaaat gcatttaaga ccctggaaaa cccattagaa 1320
agtcaaaaaa attgtaagtc aaaccatcat aagttgggtta ccatgtgtat taaggaaaaa 1380
aatcaagaa aatattaatg gttgtttata atcttaacat atctgcttta actttgaaat 1440
tttcaaaatt tacagtgagc atgcatttta taatcagaag atgttaatag gctaatttaa 1500
atttgtaga tttttaccat ttttaagatt atgtttaaaa acctgtatga gagaacatat 1560
ttggagacag gaacaaaaat atggcttgga acagaaacag tatgtggcta taagggttaa 1620
tggcaggggg gtgggggCGG tggtgggcat agaattgaga aggaaaaaag cagaatttgt 1680
tcaatgcaca caagcaatga gagtaagggtg tggtatgccc aaaatggaaa agaggctatt 1740
cagagtggtc agggagctta gaggagcgta aaggagagtg aaacttggag tccaggtagc 1800
ctgaactgtg ctttttctgt ggctgagggt gagtgatcaa ggtgtgaagt ctactagtag 1860
gaatagacct cagttgatcc tcaaagatgg tgagtattga gagagtgttt atctctaact 1920
tagcctttgt gtttctcttc acagaatttc ttcaggttga attacctaga agtttgtcac 1980
tgacttgtgt tcctgaacta tgacacatga atatgtgggc taagaaatag ttcctcttga 2040
taaataaaca attaacaat 2060

<210> 555

<211> 1732

<212> DNA

<213> Homo sapiens

<400> 555

```
gcgtacgcga cggagcgggg tgtgaagatg gcggacgaag aggccgagca ggagaggttg      60
agttgcggcg aaggcggctg cgtcgcggag ctgcagcgcc tgggcgagcg gctccaggag      120
ctggagctac agctgcggga gagccgggta ccggccgtgg aagcggccac cgactactgt      180
cagcagctgt gccagacact cctagaatat gcagagaaat ggaaaacttc agaagatcct      240
ttacctttat tggaggtata cacagtggct atccaaagtt atgttaaagc ccgaccttat      300
cttacctctg aatgtgaaaa tgtagccttg gttctggaac gcttggcatt aagctgtgtt      360
gaacttttac tgtgtctgcc tgttgagtta tcagataaac agtgggaaca atttcagaca      420
ctggtgcagg tagctcatga aaagctgatg gagaatggca gctgtgaatt gcatttttta      480
gctactctag ctcaagagac tggggtgtgg aaaaacccgg tactgtgcac tattctttcc      540
caggaaccat tggataagga taaaggattc catccaggat accacattac atttagtctg      600
catgtcttct taggtctctc ttggctgtga cagtttttca gactttcctt gtttttgatg      660
accttgacag ttttgaggag tactggctcag gtattttgta gagtgtccct caattgagat      720
ttgtctgatg ttgttctcat gattagactg gggttatggg ttttgaggag gaagaccaga      780
aaggtaaagt accattgcca tcacattata taaagggtat ctgttgtcaa catgacttat      840
cactgttttg aggttttttg aggttttttg tttgtttgtt tgtttgtttt ttgagaaagg      900
gtctctcact ccactactca ggctggagtg cagtggcata atcccagctc actgcaacct      960
ccaactcctg ggttcaagcg attcttccac ctcagcctcc cgagtagctg ggaccgcagg     1020
catgtgccac catgcttggc taaacttctt tgtatttttt ggtagagatg gggtttcacc     1080
ttgttggcca agctggctct gagtccctga cctcaagtga tccacctgcc ttggcctccc     1140
gaaatgctgg gattacaggc atgagccact acaccagcc gacttatcac tgttgatgtg     1200
aacctagacc acctagctgt ggcagcatgt gtcaggtttc tccactgtga agttactctt     1260
ttctcccttt ccatgttata ttcttttagaa tgaaattaca atgtgcagcc catcttgaag     1320
tggaagtta tgctccacct ccttgaggaa gcagtatcta catgttatct ggaattctac     1380
```

acaggagatt tgtctcctcc ctatttattt ttccaatcag tcatttatat tagtatggcc 1440
ttatatatat ttattttatt ctttgggtcat aatctgatac tactttattt tgttgctcag 1500
tttcttccag tgttggcagc tctttccttt gactcttggtg tccctcatca atgggttttg 1560
ttttttgtgt gattacttcc ttgctttctg gcactgtaat atgctccagg ctcactgtgc 1620
gtatttcctg cctgagtcct ggaatcaacc gtttctctag ggaggacttg ctccttttat 1680
tggagaatgg tattagaaac caagatctat attaaactaa atatgaattc tt 1732

<210> 556

<211> 2816

<212> DNA

<213> Homo sapiens

<400> 556

gtctgtttcc tcagaacacc ggtcttcacc aaaggcgtgg gaaagggcag agagcacagg 60
acatattctg gaattcaggt caccttttac atctgcctgg agttgggtga ggcctcatg 120
aatgactcgg caggactgac tgccactgct aaccaggggg atgcaagcaa tgaggaggac 180
ctgcccaggc cgggtgggtg tctgctccct ccctctggtc cccggcacat ctctggacct 240
cctgccctgc tgtcggagag agatgacggg caacggcgta ttctcagaga cagggcctgc 300
ctgcaaatcc tttaaagtca atgtgatgaa atgtataccc attgttagaa aaaaatagga 360
cttagcaagt tgagtgcaaa taactgatgc aagactggga tggagatggg aggggtttgg 420
ggcaaaagca gaagtctttc tgggtccgca ccagctgtga aatacctggc ttgttgttct 480
gtgcctgtct ccagcaccca ggcagggcta cctgaccact ctgctctctc agccccgccc 540
tggctctgga gcgagcctgt ggaaaggggg acacttagcc aaggccccag ccacatagca 600
gcagcagctg cgccctctgt cagctccttg cacctcctca ctgggcctcc tgcaaggcac 660
ctgtccact ccaccactat cacctgggtc ctctggcct tggcctggct tgcttacctt 720
gttatcaagt cctgaatggg ggaagcaata ttcttctcc actacaaatc accacagtat 780
tcacaaagaa ttccagagaa ataagaacag agacatcaga ccacactgag cactcaataa 840
agagaaaatt cttcaaaggt agctgattga tgagagtctc cacatgcaga tgggacaggc 900

actgatttgt gcacaagaag atcaacttga ttgaatccaa aataaaggaa tgtgtgtgtg 960
ctgcatgcac gcacacacat atccccatgg caaactcttg ctatcccagg agcgcagacc 1020
gcatgtgagg atcctggctc cttatctccc ctccccgtat ctcccttccc tgattacctt 1080
tgcgatctgc acacaccagt tgagcaggta ctgggagcca atattgtctt tgtgttcccg 1140
gacatagtcc aggaggcagc cgaagggcat gagctgcgtg atgagttgca cgggtggaggt 1200
gaggcagatg cccagcaggc ggcacacgtg ggggttgtcc acgctggcca tcacgtaggc 1260
ttcctggagg gagggagagg cacgtcagtg tggcttcgca tgggtggccag aaggaggggc 1320
acatggaccc cttccagggtg aagacgcagt aatgcgatct tgagtttcaa aatacgtact 1380
catggaggaa aagctgtgcc tgcaaaagac ctagcacagg gacgtttacg cagggtctgtg 1440
aagtgcaga tgcagtggga gggggccct cctgggtgca tctggggatt ccccatgaca 1500
gagaggccca ggcaacagtg gccatgagga gcacattgga taaaggagga gtcggagtca 1560
cctgatctct gagtttggga actgatagta tctttgttat gaagacctcc gcctcaaggt 1620
tgaggatgct gtgttttaaa atatcatgag ggcctgtagg aatctgtgtg ggggtccgaa 1680
caccctgggt aatgactgac cctgcacatc aggaacgctg gctgtgggtg ctgcagagga 1740
caagcgatgg agaaggcatc tggggagcac cgagccagca gggagaaagg cctcccttcc 1800
ccacaggcca ggcttggccc tgactgtgct ctgggaaatg ggtgggcatt tgggctgggg 1860
acctgcccc cagcacctct gcaaagagta gctggataag ctctttcaat agaccagtcc 1920
caggttttga aatggacaga gcattcaatc tacagtgact aaaggctgcc tggctgccccg 1980
ggaccattt ctaaagagaa gtggtctctc tgtgctgcgc cccaggctc cctatgggaa 2040
atccatgctg cactgagtca ggcattctgt gccctgctaa ttccggctgg ctgccaaaggc 2100
aggggccttc ctttgacaga gccataaata cagactttat tttaaccctt ctgctattct 2160
tgggctgagg aagctaaatt tatttgcaat caggcacaca atggggccct cttttctgtc 2220
tgactgagaa tgagggaatc cccaatttcc acccataaat tctctttctc tttaaaatac 2280
aaatggtggt gaccttttat tcatatggaa aagaacacac agactgtagc agaaagcatc 2340
cacagctgct tttcacatct cagcaatgcc tatgttttga gtgtggactt gggcaagtta 2400
gtttctctgc agaagtgaac acactgagcc aggctctgag atagggtgct gctccagggt 2460
gcccgggcag gtcaggagca acaggctggc gggaggcagg gtggagatag gagacaggag 2520
acaaaggcaa ggtggggcga ggggacacag acagtggacc ctcagtatct ggggaattgg 2580
ttccaggacc tcccttaaat atcaaaatgt gaggatgctc aagcccctga tataaagtgg 2640

cacagcattt gtgtgtaacc tacagacatc ctcccatcta cagcatctcc tgattaccta 2700
tagtacctaa tacagtgcaa atgctatgtg aataattgtt atgctgtatt gtttagggaa 2760
taatgacaag aaaaaaagtc cgtatatgtt cagtaccgat gcaaaaaaaaa aaaaag 2816

<210> 557

<211> 2490

<212> DNA

<213> Homo sapiens

<400> 557

aaagttgagg tcaaactact tctctgtata atagacaaga cttgaatctg gcacccttgt 60
tggtttcttt cttgtctttt tactacttga agttcctaac ctggactaag tgagtgtgtc 120
cttccccacc atgtaaccct cttccagatg acaacgtcgt gtgcttcacc aggcatgagc 180
ccattgggtgt ctgtggggcc atcactccag taagtatggc agcctttctc agtagattct 240
atgtagatcc tgccccactg ccctgtgtcc tttggaatca atttctggtg tgtttttatc 300
tgattgcacc agcgttgaac aagcattttc ttcgtggcat ggaactccat gcttgggggc 360
tcttgagatg gattagacc ctttctgtct ctctaagac cggctttagg catgccacag 420
aaagcactgt ggttcccagc cagagtggtc aggaatggcc agcattcca ggaaggtggt 480
ctcttagctg ggccttaaag ataagaaaga cttgttcaac aaggaaaagg atttccaag 540
gagtgggaat ggcctaggca aaagtgcaga ggtggctggg ctacttgga gggaacagca 600
ggaaagctgg tggggctaga gctcaggcag gagcaaaagt gaggaaaagg gtgagcacac 660
gtggcagggtg gtgtgggcca gcttccagca gctttggctg ctaaggggcc gggactttat 720
tcattgggcg gtggggatgc ttataggtgc ccaagaagtg caacaatgct gcctgtctgt 780
ttgggaagcc tctggccatt gcaacaacag ccaggcagga agctgaagag ccagggtggca 840
acatgaagtg agggttcaaa aagtgcccat ggaggcaggg aggaggacac gtcttcagca 900
gatgttttag agggagaggt agaacacatg caacagcatc ctctttgcaa aggctgccta 960
ttagtaccac ccagaatgca gtttaggaag tgctgtgcag gattgcagtt ctgatcattg 1020
cacactccta tgttaccca catacccaa atccagacca tgaaaagcaa gtgtcctcca 1080

caaaggcatc gttgagcaca tgggacaggg taagaggggtg gatctgggcc tccaaagccc 1140
ctgtgctctg tcgcagtgga acttccccct gctgatgctg gtgtggaagc tggcacccgc 1200
cctctgctgt gggaacacca tggtcctgaa gcctgcggag cagacacctc tcaccgcctt 1260
ttatctcggc tctctgatca aagaggtgag acatccaaaa agaaaatata acatgttctt 1320
ggtaacattc ccactcctag gaaccaggcc accgtcacga gatgggacag tggcagactg 1380
ctggcaatcg agtgggaagg gaatgacttc cagtgttttg tttggcgact gcacgttctt 1440
tctcctgctt gtggccactg agctggagaa actccattcc tcccagtggg cctaatagaga 1500
atgcttaact cttattatgg gctcaaacct atggttgagg acccagtggg ttgtctagag 1560
aattttcagg ggggggtcaac caagagggag ccaaataattt gggaggttct ctgggatttg 1620
cattctcagt ttatgaaatg gtccattttt ctctggagag gtggcctcgt cagctctagc 1680
tgggcggctg cagcagtccg tgtgccgggt ccctgctaata cagtgcctc tgctctgaat 1740
gcaatctctt ctccctcagg cagccagaac ttagggaaac agaggctcaa tgggacacct 1800
ccttccagac atacctttag tcattccatc cccaggttgt atggagcaaa gatttagaga 1860
aagcaacagg aagcaaagag ggacagaaga aaagatccat tcctttctct tcttagtcgg 1920
gctgatatga ccggcaggca ggtccacagt tgcttagaag caaggtggga acagctgggtg 1980
atgagccaag tttccacttt cctttggtga tgtggggcat aattaagtca cactgggtgag 2040
acttaggaat gtgaaaatcc caactgttag gaaacagtgc ctaaaaatct aaagactcaa 2100
gcaccgtgcc taaaatcttg attttctgaa ataatgtgtt ctaagtaaga ctcagcacag 2160
gtggggaaga gcatcctcca cctcgtttgt tttgtgttct cgcctgataa agaggcttag 2220
tatatgaaaa acacagggca tgaacgtgaa cgagttggca gtccctgcct tccagaaggg 2280
cttgctccag gtgagacca ggttgaacaa gcaaagaact ttaaggaggt gataccctgt 2340
caccatttgg aataataacg ggtctgatta aaaaatgaaa actgggctca cgcctgtaat 2400
cccaggactt tgggaagccg aggtgggtgg atcacaggt caggagatcg agaccatcct 2460
ggctaacaca gtgaaacccc atctctactt 2490

<210> 558

<211> 2116

<212> DNA

<213> Homo sapiens

<400> 558

atcccgcatc	tgagaggcgc	agctgcctcc	acccgcctag	tcccgcccaa	gggttcaatg	60
agcgcctact	gtgtactttt	ggggcaggag	ctgggggtctc	cttttgtggc	ccagggcaca	120
agttcagcag	ctggccaagg	gccgccggca	tgcattcttg	ctgctaccct	tgatgcattc	180
attccagcca	gggcagggct	cgcgtgtctt	tgggacctat	taggcagatg	ccctagaggc	240
tgagcgactt	gctcaccgct	ccagcgacat	gggccacccg	ccaccctca	gctgaagccg	300
gaagtcagca	cctattaggt	gccgcctcta	ttcagtcgga	cttggaagg	gttcacgtgg	360
atcccttgct	cagctcagag	gcaaggtctc	caggtgaagt	gacaagaaat	gagcatgggc	420
caaggccgga	ggcgggtggct	catgcctgta	atcccaacac	tttggaaagtc	tgaggcaggc	480
agatcacgag	gtcaggagtt	cgagaccact	ctggcctaca	tggagaaacc	ctgtctctac	540
taaaaataca	aaaattagct	gggtgtgggtg	gcatgtgcct	ataatcccag	ctactcagga	600
ggctgaggca	ggacaattgc	ttgaaccagg	gagtcgggtg	ttgcagtgag	ccgagatcgt	660
gccgcagcac	accagcctag	cgacagtgag	actccatctc	aaaaaaaaa	aaaaaagtct	720
caaagtcaag	attccacctg	gcaagttctg	gaaggcgtgc	aagatgaatt	gcgtatcaca	780
gccccctttc	tacaagacta	ccaagtgggg	ttgagagaag	tggggaactg	cccagggcta	840
cacctgcctc	ccacgccttc	ctaattccaca	gacaggcaat	ctatacctgc	ggggggccct	900
gaagaagtcc	aatgcaccgc	ttgtcaatgt	gaccctctac	tatgaagcac	tgtgcggtgg	960
ctgccgagcc	ttcctgatcc	gggagctctt	cccaacatgg	ctgttggtca	tggagatcct	1020
caatgtcacg	ctggtgccct	acggaaacgc	acaggaacaa	aatgtcagtg	gcaggtggga	1080
gttcaagtgc	cagcatggag	aagaggagtg	caaattcaac	aaggtggagg	cctgcgtgtt	1140
ggatgaactt	gacatggagc	tagccttcct	gaccattgtc	tgcatggaag	agtttgagga	1200
catggagaga	agtctgccac	tatgcctgca	gctctacgcc	ccagggtgtg	cgccagacac	1260
tatcatggag	tgtgcaatgg	gggaccgcgg	catgcagctc	atgcacgcca	acgcccagcg	1320
gacagatgct	ctccagccac	cacacgagta	tgtgccctgg	gtcacctca	atggggtaag	1380
aatcttttta	gccctcagct	tgacactcat	agtcccatgg	agtcagggat	ggacaagaca	1440
gagggaccag	agataaagga	acccaggcgg	aggttgcagt	gagctgagat	catgccactg	1500
cactccagcc	tgggcaacaa	gagcaaaaact	tgatagcttt	gcatagggaa	agagggcatt	1560

gatgctgggg ttttgaagg tgagtaggag tccatcaggc aaaaaaagta tgtattaatt 1620
 cgaagtatta aacatcccta gccaccccca ttgggaaaga tgtgccactg atttgcgagg 1680
 cgggaggcgg gggccagact tgggaatatg tgcagccctt tctgggctgg aaccagggtg 1740
 catgggttgg ggtagctgct gggaatatgc gaccctgtc ttgctttgtg cagaaaccct 1800
 tggaagatca gaccagctc cttacccttg tctgccagtt gtaccagggc aagaagccgg 1860
 atgtctgccc ttcctcaacc agctccctca ggagtgtttg cttcaagtga tggccggtga 1920
 gctgcggaga gctcatggaa ggcgagtggg aaccggctg cctgcctttt tttctgatcc 1980
 agaccctcgg cacctgctac ttaccaactg gaaaatttta tgcatcccat gaagcccaga 2040
 tacacaaaat tccaccccat gatcaagaat cctgctccac taagaatggt gctaaagtaa 2100
 aactagttta ataagc 2116

<210> 559

<211> 3249

<212> DNA

<213> Homo sapiens

<400> 559

ctaagatgct attttcagca ggctgctata aacgctttct actctgaagc acacaggggc 60
 tggggctggc cttcggagtt acgaggaaac gaggaccagg accagggtt ctgcatcagc 120
 acagccgcca ggagccggcc ggggccccat ccctgacact gctgtcgccc ggctgtacct 180
 ggggtgctgtg tccgcggggc gtctggagac gtcgatgtgg tcatagcagg gcctggaacg 240
 gggaggtctg gcctgaacta gagaaatgag gggcgtatcc gcttctccac cctggcctca 300
 gatgaagagg ctctgggggc aggaggaggt cagacacgtg cagggcaggc ggcctgtgca 360
 gggcccaacc ctccggcacc agaacctgac ctctcagag gccccacca tggagggatg 420
 tctgggggat gctgtgcgct gccgctacga tgtttggtta gagattaaag ccatttcaga 480
 agtggacacc tgcccatgtg atgcaaaggg ctgggaaccc ggtcttgact ttgcctggaa 540
 tgcctttcgg aaagacctct gtccctgagg ctgagggaca gtgcctgctc ctgccagggtg 600
 cccagctctt aagcgggtccc cagactcatg ccgcctgccc cggggcctcc cccaactcat 660

ttgtttatatt ccctgttggg aatgtattga tacctctagg atgcaaggac ggaaccacac 720
ctgaggggtg gacagtcagc cggtgcccag caaatatctg tggaatttcc tccacacaac 780
agggaaagcg atggagacag aaacctctgc agggccccga gggcacccac ttccctgacc 840
ccgtccacct ccctgacccc cgcccacctc cctgatcccc atcccgaag ctgggcctag 900
ggtatcgggtg gcctggctgg tcatgccctg ggcgccagcg cctgttcagg aggtgaaggg 960
tttatctcag cttggcccat gactgcgttg aaggacagga gggagcggct gtggctgtgg 1020
ctggaatctg aagccggtgc gggcggccag ggcctttccc tgggtggtga cgagcgagga 1080
ccagagccct gtctgcccga gggaagggcg aggggacact ccccgtaggc ggggtgggat 1140
cccgtagcc ggggctcagt gaccgctgcc tgggccaccg cctgtgggga cctgaccttc 1200
ctggggaaac ccatgggtca aaggagccga gaaatccaag caccaagtgg ccgctagggc 1260
aggacgggcg cgttcgcagt ggagaagctg ggtgtgtccg tgggaaagga aagaaatgga 1320
agcagaggct cttcaggggc acctgggaac gcagcctaca ctcttcccag gcctcctccc 1380
tccgtccact gtccgcctg ggtcctggga cagcctgagg gccgcaggct cccatgcaag 1440
gcccgtggg ggcctgcttg tctggggctg aatttggact ttatggggct atggctttaa 1500
ttccacaatg accgataacc agtgaactga agccaggaca gcaccgtgag caccaagtca 1560
gagaattttc acgagggaac caatgaacag gaacagagtg tgaggctgcc ccagctgcat 1620
cctccgggag ggccttccc aaggagtg c aaggctgcct gctgtggcca ggccacaaaa 1680
gcaccttctt caccgccagg catcttttga ggcacgcgaa catcagaggc cccagccacg 1740
tgctctggag gagaagctga gagccccagg ccacaggcag ggcagcctct gagggccggc 1800
tcagggagag tggccggagc ttctggcctg gggcaggtgg acccgttaga aactgcatgt 1860
gttgctctg gcaccagcca cagcaagaga ttctcttct atcacacagg gaacaaactc 1920
aaggatcttg accttgccct cctctcccca gctggccgca cttggggacg ctgatgccac 1980
aaaggaaata accaaaacaa gataactcta ttgggcggcg ggaacagaaa ggaacatgta 2040
gcaatcactc ctcttcatcc atgcaaggaa gcgaggcgat gccttgaaaa ggacggcctt 2100
ctttgctgca aatagccaga agtgaactga gcaaaggaag cacgggacgc acaggaagaa 2160
aagtgtcca agggacggac aggacggtgc cggggttagg aaagcgcaac actgttcaga 2220
cacagtctcc gatatatgaa tggcaagccc agttaaaaa atctaaaggg cttttttagg 2280
tttttaagaa tatttttaag gtttagtttt attaaaaaat aagcaagaca accagaaaaa 2340
agactgagga gggcatagga gaccacccg cgtgcatgag gccgagtcta aagctgtggc 2400

cacggcctgt ggaaacccgg cagaaaatct cccaataacc cagcatatga ggacggcagc 2460
 aggtgaggca ctggggtgag acagactcaa atgtgtggtg ttggggcagg aactgagcct 2520
 gcagtctaga tccccacctc atccatcacg tcaaaagaaa ttacgggcgg gtcacagatg 2580
 aaaacaccta acagcaggta actgttttgt aatcttgggg agaagcctaa agcccaggaa 2640
 ctaagagagt ataacaagtg tgaatacaga atttaaaaga agagactggt ttagcaatca 2700
 ctaagataaa acacgcgtga caggatctgc ttgtctctc tgagcacgca ggagcctctg 2760
 ccccaaatgc agacattggg ccctacgtgg cacctggcta ctgtgcatgg ttgcaggatca 2820
 gggcaggccg ggccacaggg cggggccacc ctccattcc catgtttaca gtgagcattt 2880
 cctctgcctg tgtctcttgg gctggggtct gtgatacaag tccgggaggc cagagacgcc 2940
 cacggacagt gcgtggggct tggggagcgg gactgagcca cctctgactc cttctgctga 3000
 ctgggatcca gtcctaaagc catgcctggg aagagactcc tgcctctccc aggatgactc 3060
 cgtcccgcc cgcctctgct ctcagcgccc acagggactc accaagctgg actttcatct 3120
 aaaactagac acacgtgacg tcagcggacc acagaccag tgcaagggga gctgtgtggg 3180
 ttgtgctgaa ggtatgttaa aattcataca ggacacccaa aacaatcaat cttattgcat 3240
 gataatttt 3249

<210> 560

<211> 2486

<212> DNA

<213> Homo sapiens

<400> 560

aatgtagcca aggttactaa tgcatagata tgttatgcgt atacaaggat gtacacatat 60
 attttgtaaa tataagtata cataaagagc ttctactaat ttttttctac tacataatat 120
 tctgtgtaga tatattataa ttttttaggc agtcccttat ttgtgaacat gtaggttggt 180
 cctaattctt ttcttttgta aatgatacct attttgaca tttgtgagta tacctgtaga 240
 ataaaatcat agggctagaa ttgctgagtt aagaggtata tgcatttttt atttttatgt 300
 ttttagaga tgaggatctc actatattac ccaggctggc ctcaagcttc tgggcccag 360

tgctaccata gataccactg cactccagcc tgggtgacag agcgagacac tgtctcaaaa 420
aaaaaaaaaa aaaacagatg aaaaaagaaa caaagcagaa ccaaagctat ccctagagtt 480
tagtaaatgg catcccacac ttgcgcttta gagaggccca gtgctgctaa agaagtcaag 540
aaatcagaat tggaggaaag atgatatcat ttgtcaaaat cctttttttt tttttttttt 600
tttttttttg agatggagtc tcgctctgtc gccaggctgg agtgcagtgg catgatcttg 660
gtcacggca acctctgcct ccctggctta agggattctc ctgcctcagc ctcttgagta 720
gttgggacta caggcgtgcg ccaccacgcc tagctaattt ttgtgtattt ttagtagaga 780
tcgggtttca ccatgttgcc caggatggtc tccatctctt gacctcgtga tccacccgcc 840
tcagcctccc aaagtgtctgg gattaccggt gtgagccacc acgctgggcc attaaaatct 900
tatcagtagc ttactacata tattcagccc ataaatactc ccttcaccct gtcgtgttgt 960
cagatgtcta ccattttatg tatatattct tctgattgat tttttccgtt ctcttttcca 1020
ttgatgttca ttatagcatg atttattctt gatgaaagca ttaaagatga gaatgatacg 1080
atttgtccct tcccgttcta cccttaaggc cttgctggtc cttatttaat tacatcttaa 1140
gagtcttctt atttttggac ttaattcaaa agcctgttat tctgatagag gtgacaggta 1200
gctagtaagt gtgtttggtg gcaaattaaa gtatccttgg tttttaagct ttaccataat 1260
gtgcatagat aactaagagt ttactctaata gctattgatt atggtagatg tatttaattg 1320
tttgtatcct gtccaataa ggattggagt aatcttgatt atattgttct tttgaatata 1380
catatataaa aataatatat ttctcattat ttattttatt tttagcttat gtccctgatg 1440
ccaaaaatgc acctactctt tcctctaact ctggtgaggt cattctggag tgacatgatg 1500
gactccgcac agagcttcat aacctcttca tggacttttt atcttcaagc cgatgacgga 1560
aaaatagtta tattccagtc taagccagaa atccagtacg caccacattt ggagcaggag 1620
cctacaaatt tgagagaatc atctctaagc aaaatgtcct cagatctgca aatgagaaat 1680
tcacaagcgc acaggaattt tcttgaagat ggagaaaagt atggcttttt aagatgcctc 1740
tctcttaact ctgggtggat tttaactaca actcttgtcc tctcggtgat ggtattgctt 1800
tggatttggt gtgcaactgt tgctacagct gtggagcagt atgttcctc tgagaagctg 1860
agtatctatg gtgacttgga gtttatgaat gaacaaaagc taaacagata tccagcttct 1920
tctcttgtagg ttgtagatc taaaactgaa gatcatgaag aagcagggcc tctacctaca 1980
aaagtgaatc ttgctcattc tgaaatttaa gcatttttct tttaaaagac aagtgtata 2040
gacatctaaa attccactcc tcatagagct tttaaaatgg tttcattgga tataggcctt 2100

aagaaatcac tataaaatgc aaataaagtt actcaaactct gtgaagactg tatttgctat 2160
aactttattg gtattgtttt tgtagtaatt taagaggtgg atgtttggga ttgtattatt 2220
attttactaa tatctgtagc tattttgttt ttgtctttgg ttattgtttt tttccctttt 2280
cttagctatg agctgatcat tgctccttct cacctcctgc catgatactg tcagttacct 2340
tagttaacaa gctgaatatt tagtagaaat gatgcttctg ctcaggaatg gcccacaaat 2400
ctgtaatttg aaatttagca ggaaatgacc tttaatgaca ctgcattttc aggaactgaa 2460
atcattaaaa ttttatttga ataatt 2486

<210> 561

<211> 1967

<212> DNA

<213> Homo sapiens

<400> 561

aactctaggg gctggactca gggcggtttg aaagatcggc gcgcaccgca ggagcaacgg 60
ttggtcctgc ggctgtgatg tcggtgttga ggccccctgga caagctgccc ggcctgaaca 120
cggccacat cttgctggtg ggcacggagg atgctcttct gcagcagctg gcggactcga 180
tgctcaaaga ggactgcgcc tccgagctga aggtccactt ggcaaagtcc ctccctttgc 240
cctccagtgt gaatcggccc cgaattgacc tgatcgtgtt tgtggttaat cttcacagca 300
aatacagtct ccagaacaca gaggagtccc tgcgccatgt ggatgccagc ttcttcttgg 360
ggaaggtgtg tttcctcgcc acaggtggta agtacgttcc tcgcctgtta ctgcccaccc 420
ccagccaagg gaaagctggg gcggccgtag gcttcttgct gaggcaccct gggatgatgga 480
aagagcatgt attttacaca cactggggcc tatcggaggg tggagggcag gaagaaggag 540
aagatctgga aaaataacta atgggtacta ggcttaatac ctgggtgaca atgatctgta 600
caacaaacc catgacacaa gttttaacta cataacaaat ctgcacatgt acccctgaac 660
ttaaataaaa agttaaat ttttaccgaa agaacacata tacacatact ttggaatctg 720
acctgttgct agcctttcta agagtgaata tgagcagata actctgccat tacttggagt 780
tgcctagtgg ttgcctgtgg ctttcggtaa aatccaaact ctaaagacat aaaacacttt 840

gcagtttggc ctctgccttc tgagctagtc tcatctccgg tgactctcct tctctgggtc 900
 agcttatcgt tctctgaaaa agtcctgctg ttcctgagac tttgtaatat taacagtga 960
 aataataatg gctgacatct tttgagctgt cactgtgagg cagacacggg aattgctttg 1020
 ttttcatatt cctattggag gtaggtgtta ttacctctgt tttacagtca tgagggttaag 1080
 ttgccccagg cccctagatg aaaagtggta gagccaagggt ttacacctag gtaagtcctg 1140
 ttacagggcc cgtccctttt tttttttttt tttttttgag acggagtctc gctcagccgc 1200
 ccaggctgga gtgctatggc gtgatctcag ctcaccgcaa ccaccgtctc cctgggttcaa 1260
 gcaattctcc catctcagcc tcccagatag ctgggattac aggcacccgc catcatgccc 1320
 agctaatttt tgtatttttag tagagatggg gtttcacat gttggccagg ctggtcttga 1380
 actcctgacc tcaggtatcc gcctgcctca gatagtctg ggattacagg cctgagccac 1440
 tgcagcattc accggcacac cgtggtgaag ctggcccaca cctatcaaag cccctgctc 1500
 tactgtgacc tggaggtgga aggctttagg gccaccatgg cgcagcgctt ggtgcgctg 1560
 ctgcagatct gtgctggcca cgtgcccggg gtctcagctc tgaacctgct gtccctgctg 1620
 agaagctctg agggcccctc cctggaggac ctgtgagggt ggctggcccc tgggctgccc 1680
 cttctcatgg cttcgtgctg actccataaa cattctctgt tgaggatgtc cagtcagggc 1740
 ttgacaggcc caggctcagc ccgccgtggc tgggaagggt ccctgcagtg ccagtgtgctc 1800
 agcagggaga gctgggcaga agcagcgagg gggcccagct ggcgagactg tagccccctc 1860
 ccactccac actcactctt gcagagcctg tgtctttaag cagctggcgt gttacatctc 1920
 catttaaggt ttcctttgaa caaaaggctt gtggctaaaa aaagttt 1967

<210> 562

<211> 3232

<212> DNA

<213> Homo sapiens

<400> 562

tttcattgca gtatatggga ttgtacagca ggaaatgctt atcattaatt tctgatgttt 60
 tttaaagcac aactcgaaac atttcgatca tacatacata gcagtagaga tctgtgcctt 120

tcagggtacat tgaatctgac catcagttta tatatgtcat tgaattttaa gaatactcat 180
gttaataata gtcactatc cttgcatttt gaaactgttc taatcttagt gaacttgaat 240
tggatttctg ggtaaaagaa tgtgtttctt ttatgttgct tatgtccgaa ggccttgtca 300
gaatctgtca gactcttggt taggttttagt gtgatcatgg cgtcagagaa gcaaagcttt 360
caaataaata gtacttcagg aaatagaaat gattgaccaa ctttaaaaat aatttttttt 420
taattgcaat atgcagcttc agttgcccag aatcttagtt ccgtttctca ttcttggtct 480
tgagctggtc aggtgacatc agcagattag aagttgaatg gagattaagt ggattcagga 540
ggatgttcca cttagagcag tcttcaaaat gataagggtg tctagaagaa aggaatgtag 600
taggaactat actatgccta actttctatc ccagagtgc ttgcaagagt ttaggagttt 660
tggaccctgt gtattggcag aaaagttatc tccatcttaa gcaggcatga cttttatacc 720
tgtgagctca ttttaagggtc atttaaacct aaaataattt ccctgtatta tgcttcatgg 780
gattaacact gcttttccag aacattttca gattcccctc cttacatcct gagctccttc 840
tgtatataca tctgttgatt ttatccatcc acaaggaaca atgatagtca cattagagaa 900
caagaaacca gtaatacatg gtctctaact gatgattcgg gcctggattt gattgaaagt 960
gtttgcagtt cctcttccgt agaatacaga gtggatgaaa atgttttcaa tgcacagaac 1020
aggatgaatc cttttttctt tatttagcga ttacacttt tgttactcta ttatatattc 1080
agttagtgtc tgataagatt ttctttgctt aaggagaacg gacattgcct tggtagtttt 1140
tttttttttt tttccctcca cttttggagc ttatcaggta aaaatctcaa gccacatgaa 1200
ttgttaacac ctctgttggg aaaagccttt gtgagttttt atgtacttgg tctttgtttt 1260
tgttattcat cctgtgtcct ccctcttccc gatgtgctgt ttacctagg agttagtctg 1320
ctttctgagg atcttttaga gagaggctgt gaagtgtga atcaccttta atgatacagc 1380
acttctgcca tctcagcatc tacataggac ttacatagac ttctgaatg tgtcttcttc 1440
agatactaaa gtacagttgg atcattttct tatctccttt tcttaagcag tactttgcag 1500
gtactcccct ttgaaagcca gaagcataaa ccattgggga atcttaactt gtagacatgc 1560
agtaaaagaa atgcatttat gtaagatctg tgagtactta aaaagaaagc cctcagtgtg 1620
tgtgaagtga atgtgaaatg tgtgtgaaat acatagaatt cccaatagt ttagcaaagg 1680
cagggcgcaa tatcaagtaa tttaaaaatg gtccaaggaa ctgtaagaag gaggaactaa 1740
ttctagaata aatgttaaaa tgccattcaa gaacaaaacc acagatgcca tacagacctc 1800
ctgtgcttaa gttatagaag aataaaaaatc tgaatgaatg gaaggcctta cgtgtataca 1860

gtttacaaat tcctatttct aaaatttaag tcccttattt aacagaagta tgtatttta 1920
tgcttaactg tctcgggaaa cctcatttgt gacatcatct aaggggatgg gaagactagg 1980
gagccagtgc cacgttgaac agaacagtgg tttagtgaat gtgtgaggaa agacatgggc 2040
aactgattat taatgttttt gtagttcagt ttataacttg gaaccaatga aaagcaacaa 2100
aactaaactg gtttgacagc ctgccacttc tggcatttcc tgtaagtcac tagcagtagg 2160
tgtgaggtgg gcttgcccat gaccaggagg ggtgtgtgtg tgtgtgtgca tgtgtgtata 2220
tgcgtgttgg tctgcagtca cagcatacct ttatgtgcat gtgtcctcgc agcttgggac 2280
tcagcagtat tctgggaggg tggaggtgaa ctgtcccatg tattgtatta tatatttttt 2340
gagatggggg cttgctctgt tgcccaggct ggagtgcagt ggtgcgatct cagctcactg 2400
caacttttgc ctcttggttc aagcagttct cctgcctcag cctgccaaat agctgggatt 2460
acaggtgtgt accaccactc ccagctaatt tttgtatttt tagtagagat ggggttttac 2520
catgttggcc aggctggtct cgagctcctg gcctcaggtg atccacctgc tttggcctcc 2580
caaagtgctg agattacagg cgtgaactac cgcgccctggc cccatgtatt gtattttttt 2640
caggttatat tgaaatctac taccaggaat gtcggaatgg gttttggtat gtataatgga 2700
aatagataga gtgggttaagt ctagaaacac atacattaat tgtattgaaa tgttatatca 2760
atacatcatt tatgatgtgt gtgtgggtccc agacctcatg gccaccagtt tgtttaagca 2820
ttgtgaatgc tttttaatag cattcattag cattaatgga ggaggacact gtgttttctc 2880
aattaatctc attgatttgt ttggtataag tttgggtcag aaatgaaact gccaaaacat 2940
cgatcagtac aaggaaggga cacagggctt aaaatgtcca cagtcttggc agtggacttg 3000
gcagttctcc cagtaagcag aagtacttga gcttaattct gaacttcaaa gtaatatttt 3060
atacttaatt ttaggagttt tcatttacat attgaaaaat gccttgactg tattcacata 3120
aatggtgcta aaacattgta ccccttataa gaactgcagc aatccacagt aatgttggtt 3180
acttctgagt atttgataaa ggaacaaagt caaaatgaat gtatttaata ag 3232

<210> 563

<211> 4205

<212> DNA

<213> Homo sapiens

<400> 563

attccccgggc	cctggcttct	tggcgcgatg	gtgaggcact	aggggcgaag	cgaggcttgg	60
gctgctggag	cgggaatgag	ggggcgccaa	gtggctccgg	aaactggggg	aggttgtact	120
ggcctctccg	caaacacagt	gtgtgcgggc	gtgagggtg	tgagtctggt	agggaaaagt	180
ccaccactct	cccgtcccg	agacgggggc	gggggtacgg	ggcgggtaag	acagagcagg	240
ccggccggct	tagagtcccg	gtgcttcct	ggcggaagga	agggcccctg	cctccccggg	300
caggaaactag	ggcttgtctg	gagctgggag	tcctttcagg	tcttcccat	ccccaaagagg	360
acctcccaag	gataccccct	tccccagccc	tgccgtgggg	cttgtacaag	aaggtgctta	420
gaatcaggct	cactcttgca	cactgttagg	aagcccctcc	gctctttcca	gagccagaaa	480
gtagtagttt	tggggttgag	acttatccat	ccatccatcc	aatccatcca	tccgtacgtt	540
ctaagcgcct	ggtctatacc	atgaagtgtg	ctaggcactg	ggaggacttg	agctgccaa	600
ggaaggggaa	atcgaggct	tgaattggag	tcatagctaa	ggctccagg	gcagagacct	660
aactgcgcct	tgtgtgtagt	gctaaggggg	cttcctaagg	atgccatcaa	acttaaaggc	720
ggatggatgg	caggagctgg	ctggctgaag	tacagtttgt	gtaccagggg	tagggaggca	780
agggtgggag	acgtgtgtct	tcagacagg	aacagcatgt	gcagagactt	caggttagag	840
agagtatggc	tccccaggaa	tggatgcatt	tcccatagct	gggagagtat	catctgcagg	900
ttagggaaag	atgaggctgg	acaagtagag	aacaaatctt	cctggctctt	ggatcaccac	960
aatcaagata	atgaacgtat	ccactggcct	ccataatttc	cttgtgtgag	gggctatttt	1020
aagaagtata	atcaagaaag	gctgttctgg	ctgggtgcgg	tggctcatgc	ctgtaatcct	1080
agcactttgg	gagagtgaag	agggtggatc	acctgaggtc	aggagttcga	gaccagcatg	1140
gccatggcac	tccagcctgg	gcaacagagg	gagactctgt	cttatttttt	tattttttaa	1200
aaaaagaagg	gctggtctga	tgtgtcactt	aaaggatagc	aagccactgg	ccaggcgccg	1260
tggctcacgc	ctgtaatccc	agcactttgg	gaggctgagg	gggacggatc	acttgaggtc	1320
aggagttaa	gaccagcctg	gctaacatag	tgaactctg	tctctactaa	aaatacaaaa	1380
ttagccgagt	gtggtggcac	atgcctgtaa	tcccagctac	ttgggaggct	gaggcaggag	1440
aatcacttga	acctgggaag	cggaggttgc	agtgagccga	ggtcgcgcca	ttgcaactcca	1500
gcctggggaa	caagagtga	actgtctcaa	aaaaaaaaa	aaaaggatag	caagccacac	1560
agagagtgca	gcaggcatgg	aggcgggagc	aaggctggtg	tgccccagca	gcagcaggga	1620

agctggagtg gctggagttg tgtgggtatg gggaagaggg gagagagttc actcgtctct 1680
gtgaggccca ggactttgtt ttatcccatg ctgtaccccc agcacttaag agtgggagct 1740
agcacagaga aggtgctcaa ttgatgtttg ctgagcagat gaatgcctgg agtagacctc 1800
agagcagggt ttggtggcag ggtgggtcag ggagagagtt tactcaacag cctggtgata 1860
ggggagaaca agaggccaga gggatatccat ctatgtcggg gaccaggggt ccctggtggg 1920
cagcagtgtg ggagacacac ggatcctggc cacacctcag gcctccctcc agcctgatta 1980
cctgcctccc tcccttgacag aggttccggt tctgtggtga tctggactgt cccgactggg 2040
tcctggcaga aatcagcacg ctggccaaga tggttgagtg cacagggtct agtctgggtg 2100
gaggaggggt gttgggggtg gggattgtgg gtgtagagga tggtagagtt tctctggggt 2160
tagggcctca gtgctctcag cctgtgctac catgctttgt gaccttgatc agtggctggc 2220
ctgctctgag cctgtcccca ggaaggaggg gtgaggtttg ccagcctggc tgatgtaagg 2280
acttcccttc cagtccctctg tgaagttgcg gctgctctgc agccaggtac taaaggagct 2340
gctgggacag gggattgatg tgagtacaag atccagcacc ccattgtccc atgaccttat 2400
gaccaccact gccctgaaac tctgcactag gcccaggag acgggtgagc cagcctctca 2460
acctctctgg gcacctccct tccttctttc cagcctgtct gttccttate gcaggatcca 2520
ggctgggggt gaggggctgg tgagcagggg cctggcaccc cctgaaggtc tcctttcccc 2580
atagtatgag aagatcctga agctcacggc tgacccaag tttggtgagt atcccgtga 2640
gtctataggc cccaggcaac cctgggaact tggcctggtg cctggtacag aggggcccc 2700
caccctccc agcagcatcc ttaacttacc ttccctagtg gaggagcatg agggaaagaa 2760
agaccgacag tcccaccttc ctgtcctctg ccagctcctg gtggagcagt agcagtgcct 2820
gtggctccag gaggcctggg ggctttgagc taaagttaat agggcaacag ggaggtggct 2880
ggaccacag tgacaccccc tgccccaccc acgggtccct cagagtcagg cgatgtgaag 2940
gccacagtgg cagtgtgag ttctatcctc tccagtgcgg ccaagcacag tgtcgatggc 3000
gaatccttgt ccagtgaact gcagcagctg gggctgcca aaggtagggg ttgtgggtgg 3060
gcagctgggc agcctgtggg ccaagggtg ctagagaagg ggacaggccc tgtgacctg 3120
aggtgtacct gccctgtctg ggccaggagc ccaagccagg ccccgacatg ctacctccag 3180
agctactcca ttctaccccc agagcacgcg gccagcctgt gccgctgtta tgaggagaag 3240
caaagccct tgcagaagca cttgcgggtc tgcagcctac gcagtaagta tgaggccagc 3300
cagggtccgg gctcattcta gaaggtgcac gcagcacaca aagtgcattg agagtccagg 3360

gagacgactt aaccacggtc acatggttac tagcagccgt agagctggga cctggccctg 3420
 ggtctcctga ctcccccaa gggttcttgt cactgaggtc tgctgtgggt gatcagaact 3480
 gattatcggg cacctgccct gtcttgagcc tgggtcagca ggatgggagc ttcttagagg 3540
 ccacatagcc ttgaatggtt gagagctgag ccagggtgtc ggctgaggtc tacttggtt 3600
 gcctgctttg atcctgagag ccaccaccc catctcacag tgaatagggtt ggcaggtgtg 3660
 ggctggcggg tggactacac cctgagctcc agcctgctgc aatccgtgga agagcccatg 3720
 gtgcacctgc ggctggaggt ggcagctgcc ccagggaccc cagcccagcc tgttgccatg 3780
 tccctctcag cagacaagtt ccaggctctc ctggcaggtg aggctcagct attcctcgac 3840
 gggtagagagg ctctcccaga tccgcctgac tgcctccac ctgcccacct cttccctctg 3900
 cagaactgaa gcaggcccag accctgatga gctccctggg ctgaggagaa ggggtgttcca 3960
 ggctgtgtg gagccgccct gcccgatatg agtcacgccc tctgaactgc tcttcgggag 4020
 gcagccctgg ttctaggatg ctgaggccct ggcccggact ctggcctccc agatccccag 4080
 ctgcctcact tctctcttga gaacttggct cagggtcctt gaggaccttt cccagcatta 4140
 ccttcccttc ccttgaaagg caattgttgg ctgttttcat aagcaggaaa aataaacaga 4200
 agtat 4205

<210> 564

<211> 2117

<212> DNA

<213> Homo sapiens

<400> 564

gttcctgctg gcgacctgga agttttcctc aggccacaac ttttgagag tggacctggg 60
 aaaaacaccc gcgccgcgca taccctcaaa gctgagctcg gcaggacacc caaggcgacc 120
 cgtcatgccc acccgagggg aagaagctgt gctgtcccgccc ccccttctcc ccaggccacc 180
 caggaggccc gggctgggct gtggggggcc gaaagcccca gcgctgctgg tgatttctcg 240
 cccggagccc cgccaagcca gcgcgccctc tcgcaagcct ggcagaccag gagctactgg 300
 aaaaaaggcg cggctgagga agcctgggtt ttgtggtccc acaaaccaca aatcatacga 360

gagaggatcc cgaaggcggg agaaaagtca gtacagactt gttcctgcca cttttgaaa 420
gaaaaagttc ctcaccaggc gcggggcgtg ctttgctctg ggcagggtcg cgcttgacagg 480
ggcttgggtg acccccatcc ctccctggcg gctcacctcc tgccgaggag ggccacctgc 540
ctctccttg cccagggcgc agggcgcgctc ctgccccggc actgcggacc cggggatcgc 600
ctctcccggg cgcgcgggcg gggaaggagg aagaggcggg cggggaaccg cggggtgctc 660
accgccctgg ggcattaggg gtgcggaacc gcgttggagg cctcgcggcc ccggctcgcg 720
agagcgcact gcggagtggc cgccggagct cggcctactc ctctcccca cccacctccc 780
gtcggacaca gtctccactc tccagggcgc cgccgtggg ggagccccta atcagttcgc 840
gccccggctc tctgcccgtc ttcttcacgg gaaccgact gcgaccggga cggacggggt 900
gacctatctc ccgatgcagc gtcagaagtt agcctaacta caacggactc ggaatctgga 960
ctgtataagg atgccctccg cacttccatc aggggtcggg gatgcgatgc ctccgggccc 1020
accttctccc acgcccaggg cgcgcctgcg gaatgagaat atcgtactca agacgggtgg 1080
gctgcttgcg acccaaatac aatgggtccc tcgcacatcc tgcactcgca cggcccttc 1140
tccccaacg agttgtcccc tctaaaacgc gagcggcgac cacacaactt ggccgaccgc 1200
atctggcttc tgaagatgag gtcggctgct ctgggagcgg agaaggggag agagcttagt 1260
ggtttcatcc gaggcctggc caacctgctc cttcccacgc tcccgtccag gatttgagtc 1320
ttggagaagc gtgagactcg agggagctct tccctggatg caagtcggag gccagggagc 1380
cccttggcac aactcgcgc ctgcacatgc ttgcaccctc gaagcgatct ggttccttag 1440
cgctggtttc ctttcagct tctttgagat cttcgaagtc ccctttcca gggaggcggg 1500
cagggccggg ctaagcagga tggaaggcag ccctttttat tgaatctgat agctactttc 1560
ccaaaaaggc cagaaaagcc gtttcacatc cccatagtta tgggaattag ctttttctcc 1620
aagatgcccc cattagccag ttaaaccatc agcgggcca cagggtcaaa gttagtggct 1680
tggtggttga aagctcggag tccgaactct ctgaagacat tttcccgc ttgccacttt 1740
ctagtgggtg accttggcaa gcaagggtact cagccgctgt gtacctcagt tttgcggttt 1800
gtaaaatggg agttacaata gtgcaccctt tgtagagtgg ctataggttt aagagttaat 1860
atacgcaagg tctttaggac ggtgctgagc gtacagaagg ccctctcttg agtggtcgca 1920
gttggctgct ctcggcctca tctccgtttg tgaaaaccg tccagattcc ggtcctccca 1980
ggccccagct gaagtttggg gagaggcttt gctgaatagc tgtttagtct cccccaacc 2040
ccttggccct cggagctcct ggaaaaagtt cttaatgaag taatgttgag agcgtccatt 2100

aaaaatgcaa tgctggg

2117

<210> 565

<211> 2774

<212> DNA

<213> Homo sapiens

<400> 565

gagccgcgac gacagacggc gagccgagcg aggcggagct agcatggccg gggtcggggc	60
cgctgcgctg tcccttctcc tgcacctcgg ggccctggcg ctggccgcgg gcgcggaagg	120
tggggctgtc cccagggagc cccctgggca gcagacaact gccattcct cagtccttgc	180
tgggaactcc caggagcagt ggcaccccct gcgagagtgg ctggggcgac tggaggctgc	240
agtgatggag ctcagagaac agaataagga cctgcagacg agggtagaggc agctggagtc	300
ctgtgagtgc caccctgcat ctccccagtg ctgggggctg gggcgtgcct ggcccagggg	360
ggcacgctgg gagcctgacg cctgcacagc ctgcgtctgc caggatgggg ccgctcactg	420
tggcccccaa gcacacctgc ccatttcag gggctgcagc caaaatggcc agacctacgg	480
caacggggag accttctccc cagatgcctg caccacctgc cgctgtctgg aaggtacat	540
cacttgcaac cagaagccat gccaagagg accctgcctt gagccaggag catgctgccc	600
gcactgtaag ccaggctgtg attatgaggg gcagctttat gaggaggggg tcaccttctt	660
gtccagctcc aaaccttgctc tacagtgcac ctgcctgagg agccgagttc gctgcatggc	720
cctgaagtgc ccgcctagcc cctgcccaga gccagtgtg aggcctgggc actgctgccc	780
aacctgcaa ggctgcacag aaggtggctc tctactggga catggccaag agtggacaac	840
acctggggac ccctgccgaa tctgccggtg cctggagggt cacatccagt gccgccagcg	900
agaatgtgcc agcctgtgtc catacccagc ccggcccctc ccaggcacct gctgccctgt	960
gtgtgatggc tgtttcctaa acgggcggga gcaccgcagc ggggagcctg tgggctcagg	1020
ggaccctgc tcgactgcc gctgtgctaa tgggagtgtc cagtgtgagc ctctgccctg	1080
cccgccagtg ccctgcagac acccaggcaa gatccctggg cagtgtgcc ctgtctgcga	1140
tggctgtgag taccaggga accagtatca gagccaggag accttcagac tccaagagcg	1200

gggcctctgt gtccgctgct cctgccaggc tggcgaggtc tcctgtgagg agcaggagtg 1260
cccagtcacc ccctgtgccc tgcctgcctc tggccgccag ctctgcccag cctgtgagct 1320
ggatggagag gagtttgctg agggagtcca gtgggagcct gatggtcggc cctgcaccgc 1380
ctgcgtctgt caagatgggg tacccgagtg cggggctgtg ctctgcccc cagccccctg 1440
ccagcacccc acccagcccc ctggtgcctg ctgccccagc tgtgacagct gcacctacca 1500
cagccaagtg tatgccaatg ggcagaactt cacggatgca gacagccctt gccatgcctg 1560
ccactgtcag gatggaactg tgacatgctc cttggttgac tgccctccca cgacctgtgc 1620
caggccccag agtggaccag gccagtgttg cccaggtgc ccagactgca tcctggagga 1680
agaggtgttt gtggacggcg agagcttctc ccacccccga gaccctgcc aggagtgccg 1740
atgccaggaa ggccatgccc actgccagcc tcgcccctgc cccagggccc cctgtgcccc 1800
cccgtgcct gggacctgct gcccgaacga ctgcagcggc tgtgcctttg gcgggaaaga 1860
gtaccccagc ggagcggact tccccaccc ctctgacccc tgccgtctgt gtcgtgtct 1920
gagcggcaac gtgcagtgcc tggcccgccg ctgcgtgccg ctgccctgtc cagagcctgt 1980
cctgtgccg ggagagtgt gcccgcagt cccagccgcc ccagccccg ccggtgccc 2040
acggcccggc gcggccacg cccgccacca ggagtacttc tccccgccc gcgttcctg 2100
ccgccgtgc ctctgcctcg acggctccgt gtccctgccag cggctgccct gcccgccgc 2160
gccctgcgc caccgcgcc aggggccttg ctgcccctc tgcgacggct gcctgtacca 2220
ggggaaggag tttgccagcg gggagcgctt cccatcgccc actgctgcct gccacctctg 2280
cctttgctgg gagggcagcg tgagctgcga gcccaaggca tgtgcccctg cactgtgccc 2340
cttcctgcc aggggcgact gctgccctga ctgtgatggt gagggtcagt ggataggag 2400
ctgccgggt gggatgcggg agaccagagg gctgggtcag aataatctt actgccctag 2460
ggtggatcta aaatatttat tacagtaaga aaaagccccg aggctgggag ccctagctga 2520
agcctgtgac cccgacaatt tgggaggctg aggcaggagg atcacttgag cccaggagtt 2580
caagaccagc ctgggcaaca tagagagatc ttgtctctac acaaaaaatt taaaatcagc 2640
tggtcgtggt gcctcttgta gtccatcta ctccggaggc tgagggtggga ggattgccc 2700
ggagtttgag gctacagtga accgtgttt caccactgca ctccaggctg ggtgacagag 2760
tgagacctg tctc 2774

<210> 566

<211> 2568

<212> DNA

<213> Homo sapiens

<400> 566

```
agcctgggaa ggaccctacc ctgtgctgct aaccaccaag actgctgttc gtacagcaaa    60
aaaaaaaaaa aaaaaaaaaa aaagatggac tcatcacacc caagtcaaga aagtgccacc    120
ccctccagag tcgtgggcca tagtcccagg ggaaaaccct accaaactaa agctaagaaa    180
aatgtaactc ttttcatcta ttctattact ctttcttctt tcctcgttct attgctgacc    240
atctagttat taacataacc aagtcaattt tgcctcaaac tactgcattt aatgattgtc    300
ttgttatacc ctgtggggac ttgccaagtc aaagacagct ctctacttca gaaaagtact    360
tctgtccctc ctgactctcc tcagactggg aattggtaaa ctaggaccat tgaatccagg    420
gagatttcga taaagacccc agtgccaacc aggagtcttg cccccaatg tagttgccat    480
agttgggtcca acgttctgtg gaccactaaa gagcaaggat ggactgcccc agccgggttt    540
tgtaatttcc taaaagcata cattcatttt accagaggat catagaagtt gaagacttaa    600
acaacttca gcaattaaga caggatacca agatgcaaat gcctgggttaa aatggatcaa    660
atagtccatc tgcatattaa acaaaagcaa ttgttatgct tgtgcacgtg gcaggccaga    720
gaccctgatt gtcccccttc cactaagggtg gtcctccagt cgaccagggtg tgggctgcat    780
ggtagctctt ttccaggatt ctacagcctg gagtaataag tcatgccaag ctctctctgc    840
tgtatcccaa agtccgacac cctgcgggtc agccccagag ggccatccat cctccgtctc    900
ccaacactaa gttcacttcg tgtctctcac gacagggagg aaacagcatt ccttggagac    960
ctgaaaggat gcagcgagct taagaatttt caagagctta tccatcagtc agccctagtt   1020
catccctgag tggatgtgtg gtgctattgg ggtggacctt tactgggcac tctgccgaat   1080
aactggagtg gcacttgtac tttaatccaa ttggctatcc ctttcgccct ggcatttcat   1140
caaccagaag aaaaaaaaaa taagacatca taaagcgaga gaagcccctt aggggtcttt   1200
cgactctcat gtctatttag atgcaattgg agtcccacaa ggaataccag atcaatttaa   1260
agcttgaaat caaatagctg caggatttga gtcaacattt tgggtgggtga cagttaataa   1320
aatgtagat tagataaact acatctatta caaccaagag caacgagctt ttcatgagtt   1380
```

aaaggaaaaa ctcttgtcgg cccagccct gaggtacct gacctgacaa aactctttac 1440
 actctatgtg tcagaaagag aaaaaatggc agttggagtt ttaaccaga ctgtggggcc 1500
 ctggccaagg ccagtggcct atctctcaga acaactagac agggtttcca aaggctggcc 1560
 cccaggtcta aaggccctag cagcaacggc cctgttagca caagaagcag ataaactaac 1620
 ccttaggcaa aacctgaata taaaggaccc ccatgctgtg gtaacttcag tgactactaa 1680
 aggacatcat tggttaacaa atgctagatt aaccaagtac caaagcttgc tatgtgaaaa 1740
 tccccacata accattgaag tttgcaacac cctaaacccc agcaccttgc tcctgggatac 1800
 agagagccca gttaaacata actgtgtaga ggtgttggac tcagtttatt ttagcaggcc 1860
 caacctccga gaccatcctt aaacatcagt agaattgtgag cagtacatgg atgggagcag 1920
 ctttgccaac ccctgcaaag tgactctgaa gaagatgcc aagccctactc cagtcacacc 1980
 cagaagctga ctgggtccacg caaggccaaa gcatgaggaa actcatcgca ggactcattt 2040
 tccttaaaat ttggactttt acagtaggga cttcaactga ccttcctcag actgaggaat 2100
 gttcccagtg tatacatcaa gtcagtgagg taggacaaaa ggttgctatg gtcctagtat 2160
 tttatggtta ttgtaagtgt actggaactc taaaaagaac ttgtttgtat aatgttattc 2220
 tatacaaggt aggtagccca ggaaataacc aacctgtgtg tgttatgacc catctgagcc 2280
 tcccataacc acagttttta aaataagatt aaggactgag gactgatggg ggctcataaa 2340
 ctatatgagt aaagtttttag ccaaacaga agaaaaaagg gtgcccacac aagtcacctt 2400
 aaaatttgat gcctgtgctg tcattaatag taataagtta gaaataaggt gtggttctct 2460
 taattagaaa ggaggctata tggcagaaaa taaatacatc tgtcataaat taggactgtg 2520
 tggaaataaa tgtaaacacc ggtcttgtgt catttaggcc acttgat 2568

<210> 567

<211> 2072

<212> DNA

<213> Homo sapiens

<400> 567

gtagagacgg ggtttcactg tgttgactaa gttggtctcg aactcctgac ctcaagtaat 60

ccacccgtct cggcctccca aagtgccgga gttacaggcg tgagtcaccg cgcccagcct 120
gatatgcaaa tattttaaac ttctatgacg ttccacttta tctatttggt cttctgttgc 180
ctgtgctttt ggcgccatat ccaagaaatc attgccaaat gcaacgtcag gaagcttttc 240
ccctgtgttt tcttctaaga gttttgtggt tttagctctt gagtttaggt ctttgatgca 300
agttgagttg atttttgcat gtggtgtaag ggctgggtcca gcctcatgct ctgggctctt 360
gattcacttc tcttcttttc tcacgcccag ctgggtccgc tgggtggcgg ggaggagtgg 420
ggaagtcccg ggctgggcct gcactcgatc atcccccttc aggccagcca gggagtctca 480
gtcctgtccc aggacctggc tggacgtgct ccctaccggg aaagcctggg ccgtctttct 540
aggctgatgg cagggccagc ccggggcgct ctgaggcctg ccctgcggac atgccccttg 600
ttctaggtgg tgtggctgcc cggcctgcgt gtgagaccag ctgtctgtgc ttcaggccat 660
ggaggctgag tgtttcagc ctgtccccct gctcggctct ccctctgggg aagcccctgc 720
agcccattct ctgcctccgc ttctgccatc tgtgcctttg tctgcttctt gtttgaggt 780
ggcatccct ggggccaccc ctcatgatct ggacacgagt ctccatcctg aagccaccac 840
ccaaaccct gtgcctcaaa cccctccac ccaccacatg gggttccact gtgaccaact 900
cagcagctga tgaagcttcc cttggggctc tcctagcaac ggggagctgg ctttcccgga 960
ggcctggcct ctccctaagt ggaagtgggg cgtgagggtg tcagcctttt tctgtgcct 1020
ggtgctctag gttggcttgt caccctgga agcacttgcc atccttatac agcaccac 1080
accacctcc ccgcctcta ccccttcttc caaggggtca tctctgcttc cctccccacc 1140
caacctacc cacgtggctc gccagcaac ctttgacccc caacatgaca aaataaacct 1200
cccttgccgg tcaactattc attcattcag cattgggtgc tccctgtgga cttggcgctg 1260
gggtcccgtg gaggacaaag ccagacacag tccttgccct catgggactg cacaagtgca 1320
agaccacatc agtaaacgtg aaacacagga agtgacaggt gtgacaaagg ggaccagtgg 1380
caggacagaa cctgggggtc gtaggaccag gtcaggaggg ctgcctcggg gggacacctt 1440
cgggctgagc gcagaaggat gaggggagta aaccaggctc aaaccagca ggcagaggcg 1500
atcgctgcag gcaaccggca atgtgttcaa aggccctggg gcgcgggggg ctgaggccgg 1560
cagcacggca ggaagtaaga ctgggggtga aagagactga ctgtcatgtt gtgaaatata 1620
cacttggttt tcattccat ttctggcac acaactccta aaatccttg aatctccaaa 1680
gtgatgtctt tttggatgct catgattgac agaccagctg gcagcttcag gatggttccc 1740
agggaagacc aggtagaatc acaaggttca gcaccaccc gcaacctcca ggtaggggag 1800

aggggctgaa ggttaagcag atcatcagcg gccaatgatt gaatcaatca tgccttcgta 1860
atgaggcctc cgtgaacact cagaaggatg gggttccggg agcttctgga tggatgagca 1920
tgtggaggct cctggagggt ggagcgcctg gggagcacat ggaagctctg cgtccctccc 1980
ccataccttg ccctacacat ctcttccct gtatcctttg taatatacctt tataataaac 2040
tagtaaattc catgagcccc aggaacatgt gt 2072

<210> 568

<211> 2349

<212> DNA

<213> Homo sapiens

<400> 568

ttaagatctt tgcatttgtg ttcattgtga aaattggcca aatccttgtc acatttgtgt 60
atcaagatta tgctgatttc tggccgggcg tggatggatcg cgcctgtaat tccagcactt 120
tgggaggccg aggggggtcgg attatgggggt cgggagatgg agaccatcct ggccaacatg 180
gtgaaacccc gtctctactg aatatgcaaa agttagctgg gcgtgggtggc gcgctcctgt 240
catcccagct gcccgaggagg ttgaggcagg agaatcggtt gagcttggga ggtggaggtt 300
gcagtgaggt gagatcgtag cactgcactc cagcctggca acagagttag gctctgtctc 360
aaaaaaaaa aaaaaaaaaa aagattatgc tgatttctgt gaattgcttg agcccaggag 420
gcagaggttg tagtaagctg agtgcaccac tgcagtccag cctgagcgac agagcacaac 480
tctgtctcaa aaaaaaaaaa aattatgctg ccctctttag cttgggaatt attccctctt 540
tttctagtct gtggagacgg aggggtttaag atcaatatct ggctgggtgc ggggtggctca 600
ctcctgtaat ctgagcactt tgggtggcca aggtgggcag atcacctgag gtcaggagtt 660
caagaccagc ctggccaaca tggcaaaacc ctgtctctac tgaaaataca caaaaattcg 720
ccaagcatgg tagcaggtag ctgtaatccc agctactcgg gaggtgagg caggagaatt 780
gcttgaaccc aggaggcaga ggttgcagtg agccaagatt gtgccactgc actccagcct 840
gggcaacagc atgggactct gtctcaaaaa aaaaaaaaaa aaaaggaagg aaagatcaat 900
atctcttctt cagccaggtc cgggtggctca tgactgttgg gaggccgagg caggcggatc 960

acttgaggtc gggagttcga gaccagcctg gccaacatga tgaaactcca tctctcctaa 1020
aaatacataa cttagctaag cgtggtggcg tgagcctgta atcccaggta cttgggaagc 1080
tgaggctgga gaattgtttg ggcccaggag gcgagggttg cagtgcctg agatggcacc 1140
attgcactcc agcctgggct acagagttag actccatctc aaaaaaaaaa aaaaaaaga 1200
aatatctatc tatctatcta tctatctatc tatctatctt cctctttctt catcttcttt 1260
ttcccttcct gaacagttca aacaaaaagt cattaggttag gatcaagcaa gatagatggt 1320
tacgtagtgg gaaggctaca gtgctggaag tgccagatgc tggggcccct gaagctgagg 1380
tgaatgtcat tacagggtggc aggtggcagc tcagtacata gagactgggc ccaaacaaga 1440
tcagaagggc atccatgtag gcagggtga agagtagagg aggccgggca tggaatagtg 1500
aagtctgaag cgggggttag gatgctgaac cacaggagg cctagagtgg ggtggcggag 1560
tcaagtgggg tgagcagggc ttttgcatgg agaggggcgg ccgtggcgcc tgatgtgggc 1620
aaggaagttg tgtctgcatg gttgaggagagg tggagagagg gaagagggtg attgtgcctt 1680
cgggagggtta aaagagtcca agcatcctaa ggaagacgtg catttgggga gtgtgtggca 1740
gcaatagtgg aagactggtt acatacaagg agattaatca aatatgtaag tatattgagt 1800
aaaatgggaa ccacattttt cactgtcaaa gaagggaatt ataaacatgg aaagagagaa 1860
actcgaatca actctgtggt gttgactttg aattgaagac attgatacaa atttaagggtt 1920
ttcagtatac aaagtaagac agttgtgaag caatctgatt gcagattcct ttacattttt 1980
tattacctta atcttttata agtatctcac cctatgctta atttgatggc tcttcttttt 2040
tttttttttt ttcttcttcc taatagagac agggctcttg tctgccgcc aggctggaat 2100
gcggtggcag gatcatagct aactacagcc ttgaactcct gggctcgggt caccatccca 2160
cctcagcctc tcgaatagct atgagcacag gtgtgcacca tcaactccag ctaattttta 2220
ataatttttt atagaggctg gaccagtggt gtcatgcctg taacagcact ttgggacgtt 2280
gagggtggaag gattgcttga gccaggaat ttgagactgg cctgagttac atagtgagac 2340
cctgtctct 2349

<210> 569

<211> 2222

<212> DNA

<213> Homo sapiens

<400> 569

attaagtaaa	ctccagactt	ttatttagat	tttaccagtt	tttccggtaa	cactcttggt	60
tgcaggattc	aatcgggtat	atcacacatt	gcacttagcc	tgggtccagg	tgtgttttat	120
gtatatgtat	gtatgtgcat	accacagggga	tagaagaagc	caaaatattt	tcttttgtca	180
ttgttatctt	taaggagtgg	acttctgggt	tatttttcat	gaaattacac	tccttttggt	240
ttccaaatat	cccagtggga	gacgaggagt	cccttttttt	tttttcagcc	agaagcatat	300
acaggaatth	aatagtatt	gcaatccagg	gtagggcaaa	cactgtctcc	tttctcgatc	360
ctgagggcat	cactgggttg	ccacagtggc	ctaccctacc	ctatcttcct	aaggagaatg	420
ctggacaatt	gtatttaa	gttcttcagc	atgttctgtt	tcttttagaa	tgctttctac	480
taggctttga	tgctttaa	gaatgagtcc	cccagctctt	gagaaatgcc	tgatcagaaa	540
acatgttcag	ggggcgctag	ggaactgaag	ttaagactaa	ttgaatgaaa	ttttctttga	600
cagatthttc	caccatgaga	ttagtacaga	atctgtgtga	gaagagaggc	agaagcaatt	660
ttgttactgt	agaagagatt	acaaagaact	tttgtaaatt	gcaggtagga	gagacttggt	720
ttgctthttt	gacagtcttg	ctcctctctg	tatcccacag	ctggccctga	aggaccctgt	780
tcatacagtg	tcactgcagc	agttcatcta	cgagaagctc	aaggcacagc	aggagatgct	840
aggagaacaa	ggthttccagt	ccctcatgga	aacagtggat	acggagattg	tcaccagct	900
acaggagtth	ttgcaaggat	tctaagagca	catgacatgt	ggctgcctcc	cctttcagaa	960
acaagctgag	taaccagcc	tgccgtttgt	atgtgagagc	ctgctgagat	gaagaaatca	1020
cttcatgaaa	ataagcaaag	accacacatt	ttttactaca	aatgtaaag	gataaatgta	1080
aatcctgcat	aactaaaatc	acaaacctat	tcctcaaaag	aatttaattt	tatatttatg	1140
agggggccct	tcactaaaaa	gtacatgtaa	aagtacattt	gatgacaata	gctgcttagt	1200
ttcctgttaa	gagaagaaac	tttatctttt	aattatgtgc	tcttaatatt	tgaagatgag	1260
agttaatacc	tgagatgtth	ttctgcaacc	aaaattcatt	aaatttggct	gccttatcct	1320
ttttttaagc	taatgaaact	acaggtttga	aaaatgacaa	agctgttcag	atgatgctat	1380
taaagaaatg	tgtgtactaa	gcaaaaatat	ataaatagt	acaaatacac	attaccaagc	1440
ttatcttgca	agggagtth	tttcatctaa	catagaaagt	gtgttttatc	agacaaatgc	1500
ttttatthtc	attctaataa	tttgatacag	aaattagtaa	aggcatttht	ttctthtttt	1560

ttccagtaaa tacattgggt ctataaatgt gcattttgtaa gggccacaaa agtgaacgtg 1620
 tgggtactgta gtaccacgtg ggagacctct ggttatgggt tagtcctagt tcctttgtta 1680
 ctccctgtgag caccgagaag aactgggcga ctcccagtcc cacctgtgct gtgacagtcc 1740
 cacgtggcta tgacagactg tttagtactt acccttctca gggttcctcag tgcaggggtg 1800
 catcagggcc tcaataatag ggggtatacct gggaggatcc agcagtaatc cccaggggtac 1860
 taggattact agtactctga tggaactagt cttccttcct tattcctcga acatgcagta 1920
 cataaaaagg ggaaaaggag aaaaaaaaaag cttactttg ttttacttgc cattttattgt 1980
 aaggaaactt taaagcattt tttaggaaat actcaaaagc aaggttggaa aatgttttat 2040
 ctttctatag aaagttgggt acagtatgta actgcgggaa acccactgcc cttttgtaag 2100
 ctgtggaacc caaactgtat ggggatattt gatgttttca gaaagaggaa gaaaatatgg 2160
 tccaaattaa attttccaaa gataaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2220
 ag 2222

<210> 570

<211> 2663

<212> DNA

<213> Homo sapiens

<400> 570

aagcacaggt gggttccgcg gcggcccggc cccagcactt gccggcacct gcagcccgcc 60
 tagaccggc gctcgggcgt cccgcgtgc acttgctgc cgcgtgactg gaggaccgag 120
 cccccacatt ttctttatgt ggttgtggtg ggggcacagt aatgccctgt gcgccgtagc 180
 gttcctgtgg ggatgtggcc ggggggcgtc gggaagcgtc actgctgcca ggtgcagtgg 240
 ctcacgccta ttttccagg actttgagag gctgaggcgg gcggatcacc tgagtgtatg 300
 ccgagctcag cgatgaagcc agcgagccgg aactcctgaa ccgcagcttg tccatgtggc 360
 acgggctcgg gacacaggtc agcggggagg agctggatgt cccctggat cttcacacag 420
 ctgcttccat tggccagtat gaagtgggtga aggagtgtgt gcagcggaga gagttagatt 480
 tgaataagaa gaatggtggt ggctggaccc cgctgatgta tgcctcctac attggccacg 540

acacaatcgt gcacctgctg cttgaggcgg ggggtgagtgt gaatgtgccg accccagaag 600
ggcagactcc actgatgctg gcctccagct gtggcaacga gagcatcgcc tactttcttc 660
tccagcaagg tgcagagcta gaaatgaaag acatccaggg ctggacagcc ctcttccact 720
gtaccagcgc cgggcaccag cacatggtca gggttcctctt ggacagtgga gccaatgcca 780
acgtgaggga gccgatatgt ggatttactc ccttgatgga agcagctgct gctggccatg 840
agataatcgt gcagtatttt ctgaatcacg gagtcaaggt ggacgcgaga gaccacagtg 900
gagccacagc ccggatgctg gccaaagcagt acggacacat gaagatcgtg gccttgatgg 960
acatttactc gccctctctg cccaagagcc tctatcggag cccagaaaag tacgaagatc 1020
tgagctcttc tgacgagtc tgcctgctc ctcagagaca gaggccttgc cggaagaagg 1080
gtgtcagcat ccacgaggga ccgcgagccc tggccaggat cacaggcatt ggcctgggcg 1140
gcagagcccc acggcctcgc tatgagcagg ctctctccccg tggctatgtc accttcaaca 1200
gcagtggcga gaacccccctg gaagaagagg gcctctgctg ccgggatgtc acctccccca 1260
tcaatgagcg ggatgtggag agcagcagca gcagcagcag tcgggaggaa catgctttct 1320
gtgccaacct gggggccgctc cagagcagca gcagcagcga gggcctggcc agagcccagg 1380
ggctcagcag cgaagcttct gtggagagca acgaggactc ggatcatgcc tgtaaaagct 1440
cagctcgcaa acaagctaaa agttacatga agaccaagaa tcctgacagc cagtggcctc 1500
cccgcgctgc aactgacagg gaaggctttc tcgctgagtc cagccccag actcagaggg 1560
ccccctactc aggaccccag gaccttgccg cactgctgga gcagatcggg tgtctgaagt 1620
acctgcaggt gtttgaggag caggacgtgg acctccgcat ctttctgacc ctactgaga 1680
gcgacctgaa ggaaattggc atcacgctgt ttgggcccga gaggaagatg acgtccgcca 1740
ttgcccgtg gcacagcagt gcccggccac ccggggatgc cctggagctg gcctacgccg 1800
accggctgga ggctgagatg caggagctcg ccatccagct gcacaagcgc tgcgaggagg 1860
tagaggccac gcggggccag gtgtgtcagg agcaggagct gcgcgccgtg gtggagagct 1920
gcctgctgga gcaggaccgc gcccgcgagg acctccaggc ccggctgcgg gagacgtggg 1980
ccctggccccg ggatgctgcc ctgctcctgg accagctgcg agcctgtcaa gctgagctgt 2040
catctcgagt gaggcaggac cagccccctg gtgcagccac tctgggccta gccgtcccc 2100
cagctgactc caagggtgga caagcgtccc tgcaggccat gagcctcccc gagctctcgg 2160
gagccctgga ggaccgtgtc cgtgagatgg ggcaagcact gtgcttagtg acccagagcc 2220
tggagaagct gcaggtgctg aacgggaaga agtggcgagg gacctagcct gcgggcccga 2280

tctgacgttg ggtgattggt ccaccctgaa gctgtgtgcc agggagtgag gaggacagtg 2340
 agcaggtagc tgccatgtgc agcccaggcc cagtgggggc cagaggatca ggccccggga 2400
 gcagccggca gacagaggca agacgggggc tgcggccctg gctcggcagc tcgggccagc 2460
 actgaggcgg gacgagggcc tcaccagaa cctcgtggtg agggccagag ttcattgggt 2520
 gccctggccc ataccaggca gggccctggg gggaaagtgt atccatatac acgcacaggt 2580
 gccaaactgag gtgggacctt aggaatgagg actggggcac ctggaaaatg ccattttttg 2640
 gaaaataaaa tttaagaaca gct 2663

<210> 571

<211> 2156

<212> DNA

<213> Homo sapiens

<400> 571

accctccgcc ccgcagctgc cccggcccac agccccagct ctctgcagtc gctgaatgcg 60
 cccccctccc ctcccccca tccgtggacg ccagaagcca tgggcactgg aggatgtcag 120
 ggaaaggtca agttcttctt tgggatccga gagcgaggac ggagctcccg gaagcaccag 180
 gggccacgag agttgggccc cctccacac ccgccccgcg caaggtccgc caccctctac 240
 ccccatccca agctgggatc ctccctgccc ttcaccccct tccgtgcgat gtccaccttc 300
 cccggagtcg gcgctggaga tgccctacct cggctgccgc gggcggggac cgaaggtgca 360
 gctcggcctg gcgatgcggg gccatgagta aaggtctgga ggacacggag ctggccaggg 420
 tccgggttgc acgccccgcg gccacaccgg agtccacgct gcagcggggg tccgagcccc 480
 ttttcagggt ccaggacgt ggcggcctgg ccctcagccc cgcctcaggg ctgtgcccc 540
 gactgcgccc ggctctgtcc ccacctcccc aaccccaggt aaggcgcgcg gagaaggagc 600
 gcggagagcg ccggtcagga agcccggact gagcgcgggg gctgggatct gggatccaaa 660
 cgccgtggcc gcgggccccg gcccgggcag acccgggctc cgctctcacg tcacgcggta 720
 catgggctac agttccttgt ccgagggtt cggggagctg gagccgcaca gaatgaaggg 780
 gttcactggt agtggttccc aacttcgttg catattaaac cccctggag aacttaaact 840

ccagtgccca gtcctatgca atcagatcct ggggtctccac tgtgcagcgc ccgtggagag 900
ccagcgatgt ggagggtcga gatcacccag ttctttgggg acagggtctc actgccacca 960
aggctggagt ccagtgggtgc agtcacggct cacagcagtc tcgacctcca gggctcaagc 1020
gatcctccaa cctctgcctc ccgggctcaa aagatcttcc caccttggcc ctccctgcac 1080
agtagttggg actgcaggcc tgcattaccg tgcctggctc atttttatat tttttgccga 1140
gatgggattt caccgtgttg gccaggctgg tcttgaactc cagatctgcc catctcggcc 1200
tcccgggggtg ctgagattgc aggcatgagc caccacatcc agccataatt tttaaaaatg 1260
gcttctctgag gttttacaag aaaatatgca cctcaaaaata cacaaatagg catgggaata 1320
gagtacagtg aagtgaaga taaaatgtac tgagagctgg gagtaggaga gacaaggccc 1380
tggctgaggg ggtgtcagtg ggcctcccaa cacctcaagc caatccactt ggaggtctcc 1440
caaagttcat caggagaacc acctacagcc aagaacagaa aaggattcaa gaaagccgca 1500
cagatatcat gccctgacct gcaatgaggc tgctcacttc ccatgacttc tgcttgatac 1560
cattcaaccc tggttagctc atgctgaaga aatatttact agaagcctca gatatgggtg 1620
cctagaagga aaaagatcca agttctctgt ggtgggtgcaa cctgtgggaa ctattgcctc 1680
atgctcagaa ggccaagcac taggctccca tacaatacct acaagacaga cactctggga 1740
gggagatttc tcttttggag ggagacccca ggtgctctcc tctgggtgcc cgagtgttgg 1800
aatgggcgga tgccaagact tcattctagc tcttggtcag cagcagcact aagggtctct 1860
gagaagcatc agagatttca ccactgatga actgccagga ggctagtggg ggcggactga 1920
ggagacactg aaacaccgaa gctgccgcca ccaccggctg atgcaagttt tattgagaca 1980
atatacaaac aggccatgga aacaagggtt ttgatgctgg gaccagtaac gtaaaacgga 2040
atacaaaaat aaaaaggcac taatctgtta agaaaagaca ctcgatgtat tctaagaata 2100
taagtcattt aatactgtta attttatagc acaaaaataaa acaagctatg atcccc 2156

<210> 572

<211> 1904

<212> DNA

<213> Homo sapiens

<400> 572

tattaacaag acttcacttc ttttaagtgtg tggccttagg ttcctttttc gttagtctta	60
accatthttcc atactthttc ctatctagct tagaactaat ctgtgagcca ccgtgcctgg	120
cctcggcctg gtaactctta agthtttgac ctgtatgggt actthtaagcc ttcaggcaga	180
actcccaggt gctaattccgt cagtccggca gccgaagcct gagctcacca ctttcagaca	240
ccaccagcct ctttcagatg cccaaggatg cctgacaaat gtcattthtt acacatctta	300
tgatgtgaga aggattgaga agtactgacc agagacacag ctacatccct cccttcaca	360
agctgcaatc agtggataat aaagaagagt ttaataagca tatcctgacc ttcctaaagt	420
gtaatgttgc ataaacataa agattctggc tgcctctgggt gcttagaatc tatgtcgtgt	480
aggccgggca caatgattat tatactcagt tgtatccttg gctgcctaaa gtgatgccag	540
gcccttggct ctgtccagag ttcctcttga ggaaaatgac cacgctcagc tgctgccttt	600
gttctgtttg gthtttcagac gaaaacagca accagagthc cgtgtctgac gtctatcagc	660
thtaaggtgga cagcagcacc aactcaagcc ccagccccca gcagagtga g tccctgagcc	720
cagcacacac ctccgacttc cgcacggatg actcccagcc cccaacgctg ggccaggaga	780
tcctggagga gccctccctg cctcctcgg aagttgctga tgaacctcct accctcacca	840
aggaagaacc agthccacta gagacacagg tcgttgagga agaggaagac tcaggthccc	900
cggccctgaa gcgctthctgt gtggaccaac ccacagtgcc gcagacggcg tcagaaagct	960
agcaccatcc cggccctccg cctcctggcc ctgcctctat thattgcatt ctggtthctgg	1020
ccgcgccgcg thgttggggt aagggaagc actggggthc agagcctgca cacatgagcc	1080
thccgggctg gaaggctggc gtaggacttg gggctgtagc atcatctthc tgacctggc	1140
acctgtgtct acttgctccc gagaagagga gcgctcatgt cththttgca cccaagthg	1200
gctggagcat cggccacccc aagattcatc tgtgacctcc aggcagcagt ctctgctcca	1260
gaatctctgg acggagctgc tggcagcttc tgcgagaaga gagagatgtg gaaggcacct	1320
tctagaagag agcgtgcctc aggttacttg aacttgaacg gagactgtag actcccggac	1380
ththccctag gactgggggc cctgtaggct gctgttgag gactgggtag agacattgga	1440
gggaagggaaggctthttc ccacacaagg gcagagagtc cgtctagatt thttgctgtc	1500
ctgccagctc tgcccatgcc tgaggthgtc ctacctctca cgggcacct agctgctgac	1560
agccctthgt ggccgccgct cccatccct gccctcagca cacacatctg cacacacgca	1620
gctthgtthc cacctctacc tgtcattcca gcacccctgc ctcttgctac aaactgcccc	1680

agcaagaatt tgaggttctg acaacagtac ccatcccca cagtaccct tcagctcagt 1740
ttctagaaag ctcccttttc ttgaaatct gcatgttgaa ttgaacttg tgattttatt 1800
ttttgtttca aaaaagtta agaaaatgga aatgggcaac agtgagtga gacatatatt 1860
agcactgaat agaatatatt taaaattaaa ctatttgaaa tatg 1904

<210> 573

<211> 1829

<212> DNA

<213> Homo sapiens

<400> 573

gcgcgacagc ttccaccgc ctcaggcagt atcagccgc cgcagtcgg aggaaataga 60
cgcggggcct gaggtcctg gacttgagag gctgcagaaa aggcccagga ggctgttgat 120
gacatgaacg accaccagga gaagctggag caggctgatg cacagaagg cggagaagag 180
ggacacgtgc cagacaacag ctgcagaggg ctccaggcag acggagtcc agagcgaacg 240
gtcatacaga taattcctat cccaaaaaat aaggagacca ggggtcaggc gataagtaag 300
gaaagccaaa caggcaacc cagtagaaaa ctggggctc ccctgaccg gtcatgggac 360
tgggctcatg agggtgacc ttactgctcc atttgcaatt ttctgagtat cagaggagca 420
agatgctagg atgtgtgacc caaaggagct ttagttcgt ctgtgtgtct ttttgtctct 480
ctctctctct ctgtctgaaa agaccaagcc caagcctcca cccatttacc tactatgcag 540
gtctttggat gggtaaccat atttccaagc ttgtgtctga ttgaaggatg aaacatcaaa 600
catgcaaaaa ggaccatctt tcagagcaac tccagaagtg acaaagcaaa tcagggtcc 660
aagtaaagcc aggccacctg acaacagagc agtaagcacc tgcggaggga ggagaaacac 720
tgagctaaga cggggtcgca gctggggagc ctgcggaggg aggagaaacg ctgagctaag 780
acggggtcgc ggctggggag tctgtggggc ggtctgcaca ggtctgactt ctctgggtctc 840
agtgttcttc cgtcctgtca tgggggagaa ttctgtccat ggcacccct ttgaagcata 900
acccatggtg gggaggccgt gaggggtttc taggagagaa aggaccaaga agcagaatcg 960
caggccccgg atctccctga ccgtgagttc gcctgagctg ctcagcagct tggcatcaca 1020

aaccttttgc acattacagc cattcagcct ctgagctaaa gaagaagcta ccacaggccc 1080
 accactgact cttctaagga aaagctgcat ttcaaaaagt tccagggtcc caactctgat 1140
 tcttctctat ttcaaatcaa ggataaaaaa aaggaaggga ggggaaggag gaaagaaaga 1200
 agcaggaaaag aagggaagga gagaagtggg agggaggga agaagggaga gaaacagcga 1260
 gagagaagct gcagccaagc tctgaaatga ctccacttct gtcgctgtgt ttctccagct 1320
 gagagctttc ttggccatca gtctgtgctc cactgccct cccagaaaat aactgggttt 1380
 ccttccttga caggtttcta gcctgcttct acattggctt ctttctcgtt ccttccttcc 1440
 ttcccttcct tccttcttcc tctctctctc tttctttttg agacagagtc tcaactctgtc 1500
 gcccaggctg gactgcagtg gcacgatctc agctcactgc aacctctgcc tctgagttca 1560
 agcgattctc ctgcctcagc ctcccaagta gctgggacta caagcatgcg ccaccacacc 1620
 cagctaattt ttgtattttt agtagaaatg gggtttact gtgttggtca tgccggtctc 1680
 aatctcctga ccttgtgatc cacctgcttc agcctcccaa agtgctggga ttacaggcat 1740
 gagccaccgt gcccgccca tattggattc tttcttaggg ttctagattt ttttctcct 1800
 cccccaaaaa tgcctatttt aaaaatgtg 1829

<210> 574

<211> 2523

<212> DNA

<213> Homo sapiens

<400> 574

ttctttaaaa atgatgcaaa accctttgtc cccacttgct gccgggatga gaggtaagca 60
 cggacccgcc caccctctga catcgtagc cagtgaagac cccggagctg gccatggagc 120
 gagcacctcc gcatccaggc tcggcagtga ggaggatggg cccagcaga tgagcttctc 180
 ccacaggcag cacgcagggt agacagagcc ctgcgtagg gcatggaggg cccagggtgga 240
 catccttttg tcagtgaaga tggccctcc tcaggttccc ctcacgaaa aagcgtttgt 300
 gatcagacag cccactaggg tgaatggctc gtctcttacc ttccacggg taagcagaga 360
 catggacggc ttccacaaga atttattatc gcaatgaatg tgtagcatga ggggggtctt 420

atcttttaag aggggcttac tctgttgccc aggctgcagt gcagtggtag agtcattact 480
tattgtagcc tctagctgct gggctcaagc gatcctcctg cctcagcctc ctgagtacct 540
gggactatag gcgtgcacca tgcctggcta attttttaaa tttttagag acagaatttc 600
gctgtgttgc ccaggctggt ctggaattcc tgggctcaag tgatctgccg gtgagccacc 660
gcgcccagcc tgtctttaaa aatttttaaaa agaacatccc actcagacca gcgttaacaa 720
taacatactt taggtgggtca aaaataataa attttgttgg gtatatattca tcacaatttt 780
taaaaagaca aatggagcat gccccgcctt ccccccaaaa aaagatgaat agcaacacaa 840
acaggatacg ggaaaataac attttgggggt ctatactcaa ggttttttga gacttctatt 900
acagagacct agcaggggtc atcagttagg ccctagacgt cctcacaccc ttgcaaaggg 960
gatgtgtggt cagctgccac gtcttgtccg tggccaaagg ctgtagctcc tccctgaagc 1020
ctgagcacc ccccccgac acctcccaga ggaagctccg tgatgccctt ggggccctga 1080
gtgtctgctt ataaccaacc ctgtttaatt ttcctgtgaa gaatggagac ttttgcctgc 1140
ggctccagag ctgtgcgtct gtgtgagtag ggggtggccg tccccccagg gaggggtgcag 1200
cttcatgtgt ctggtggcct ttccttccag acccccagag gagcccacca cctggaccgg 1260
gtacttcggg aaagtgtca tggcctccac cagctacctg ccttcccaag tgacagaaat 1320
gttcaaccag ggcagagcct tcgccacggt ccgcctgcc tctgcggcc aaaaaacat 1380
ctgctcgcta gccacaattc agaagatccc gcggttgttg gtgggtgccg ccgacgggta 1440
cctgtacatg tacaacctgg acccccagga gggcggcgag tgtgccctga tgaagcagca 1500
ccggctggac ggcagtctgg aaacgaccaa tgagatcttg gactctgcct ctcacgactg 1560
ccccttagtc actcagacat acggcgcagc tgcaggaaaa ggtacttacg tgccttcac 1620
cccaacgaga cttgcctaca cagacgacct ggggtgctgtg ggtgggcctt gcctggagga 1680
cgaggccagc gccctgcgcc tggatgagga cagcgagcac ccgcccata tttctcgac 1740
tgactgaact tgacctgtga ccactgaccc ggggagcaga gaacactggc ttcacagagg 1800
actttgtgca ttgctgctat gaactttgac ctgagtcggg ggagaggatg gcagagactt 1860
tattaaaaaa aaaaaaagat tgtagtggtg gtctaactcc ataacgctga ggaaatacat 1920
cattttcact tcagtggctt ttaaatacctg cttatgaatt ttagcttttt gtttgtttgt 1980
tttctctttt tgccaaaatt aactgtttgg tgaagccgc aaaacctcct cgctttgcat 2040
gcatgaacgt gccaagccag cataggggag ctagaagcca cttccagcc acctgccgtt 2100
gggttttttc atatctgtac ataatgccga gtgcgtaagg aaaccgtggc gtcgcgcaca 2160

gtgggtctgc ttgtcaaggc cagttctgca gtgacaggcc caggggctgc ccaccaggtg 2220
 tgctgggcag acttcagctg ggacagaagt ccgatctccc tagggcccca cctggaccat 2280
 tttccctccg ttttattttg ttaattaaat tctttccaaa ttggatcgct ctgggatttc 2340
 ttccatgggtg gacttttgtt tctgatcttg ttttcctgt ggatattgga ggacagcgag 2400
 gttctttctg atactaaaaa cttttctttc aggcagcaaa tgaacttgaa aggttgccctg 2460
 gactcgctgg agcaaaggaa agcgattttg tttgtataat taaatgatct gttcttctac 2520
 ttc 2523

<210> 575

<211> 2440

<212> DNA

<213> Homo sapiens

<400> 575

actcagaggc cgtccaagac actggcaagc cgcagaagcc cagttcgccg gccatgaagc 60
 agcggttctc ggcgctgcag ctgctgaagc tgctgctgct gctgcagccg ccgctgccac 120
 gagcgctgcg cgaggcgctc tgccctgagc cctgcaactg cgtgcccgcg ggcgccctgc 180
 gctgccccgg cccacaggcc ggtctcactc gactatcact tgcctacctc cctgtcaaag 240
 tgatcccatc tcaagctttc agaggactta atgaggatcat aaaaatactg atccagaaca 300
 ccaaaaatct gagatacatt gagcccggag catttataaa tcttcccga ttaaaatact 360
 tgagcatctg taacacaggc atcagaaagt ttccagatgt tacgaaggtc ttctcctctg 420
 aatcaaattt cattctggaa atttgtgata acttacacat aaccaccata ccaggaaatg 480
 cttttcaagg gatgaataat gaatctgtaa cactcaaact atatggaaat ggatttgaag 540
 aagtacaaag tcatgcattc aatgggacga cactgacttc actggagcta aaggaaaacg 600
 tacatctgga gaagatgcac aatggagcct tccgtggggc cacagggccg aaaaccttgc 660
 cctgccgagc tatggcctag agtccattca gaggctaatt gccacgtcat cctattctct 720
 aaaaaaattg ccatcaagag aaacatttgt caatctcctg gaggccacgt tgacttacct 780
 cagccactgc tgtgctttta gaaacttgcc aacaaaagaa cagaattttt cacattccat 840

ttctgaaaac ttttccaaac aatgtgaaag cacagtgggg aaagtgagta acaaaacact 900
tgggggcggg gttccaccgt gttggccagg atgatgtaga tctgctgacc tcgtgatccg 960
cccgccctcg cctcccgggg tgctgagatt acaggccttg aaaatattca ggatatccag 1020
ttactggcca ctatctgtcc cctgatacca agaagtggga cacagaacta taccttctct 1080
gatacagtag ttgcttgaag agaccatgga ttcaattgtg gaacactagt ttgtattact 1140
gaaggctggc caagctgttg aaatacttgc tgaattggat gctgaagaat acctgctctt 1200
ccagaagtct ctgtcaccat aattggtaca ttgactttat aaaggtgacc ttaaaaagga 1260
gaaagcaaaa ttgaaacaaa cttcaaaaag aagcctacaa gaagtacatc aaagattaca 1320
taaaatcaat caaaggccaa catgaagaac agagacctaa acagtaaaac cttttatgac 1380
agaagctgta gaacaaacca agcacacctt actaatttca acaactacca gttttttacc 1440
agtaaaaaca tgaatccaga tggcatagtt gctctacat gaggatgggtg tgaccctgta 1500
tatgattttc tttaaagatg gtttagaaat ggaaaaatgt taaccaattg gcaattactt 1560
tggctctatc acctgtcatc acaactgctt gctgcctatc acccatga cacaatgact 1620
taagataaat tggactgatg tcaacttgag ctcttcattt atttcgacca ttatatcttt 1680
ggagtggaag cattgttttt aagaaaaaca ggtcgggtgg cgtgggtggct cgcgcctgtg 1740
gtcccggcgc tttggggggc cggggctggt ggatcacggg gttgggagtt ggagactagc 1800
ctggccgata tgggtgaaaca ccgtctctac tgaaaatgga aaagtgggtt gggcatgggtg 1860
gtgcatgcct gtggtcccgg ctgctcggga ggctgaggca ggagaatcgc ttgagccagg 1920
gggtcggagg ttgcggtggg ccgagatcgc gccactgcac tctggcctgg tgacagagta 1980
agactctgtc aaaaaaaaaa aacaaaaaac ttgtcaagta ggttgtctaa aaataaaatg 2040
cacttaaact catttgaaag aatccttttt agtttaatat atgtttatgc taaatccatc 2100
ctaaaaagg ttataaagtt ggaatcttaa attgtaaaat taaccattga gtgtcaaagt 2160
tctaaaagca gaactcattt tgtgcaatga acataaggaa agactactgt ataggttttt 2220
tttttttttt ctccttttaa atgaagaaaa gctttgctta agggttgcat acttttattg 2280
gagtaaatct gaatgatcct actccttttg agtaaaacta gtgcttacca gtttccaatt 2340
gtatttagct tctggttggg atttgaaaaa aaaagaaaaa aagaaaaaga aaacctaaat 2400
aaaataggtg aaagtccct gactattcag gtgaatacac 2440

<210> 576

<211> 2784

<212> DNA

<213> Homo sapiens

<400> 576

```
attaaatgga gtggcctggt tgaggaacaa gcagaggcag gtgggagagg tccctgcctc 60
tcagttcacc tccacacaga tgcgctgaga ggcactgggt tggtcgacaa cttctgcatt 120
tgcgaagagt gcagcgtccc tcgctgtctc atgtatgaga tttacgtgga gacctgtggg 180
caaaacactg agaaccaagt caacccggcc acctttggga agatggcctt ccttgctgac 240
gaatactgca actattgtcg agacatttta cgaaatgtga ggaactgaga acttgagagg 300
gtggaggact tgcttacttc cttctggaag tctctgcagc aagacacagt catgctgatg 360
tcattgcctg acgtgtgcca gctctttaaa tgctacgacg tccagctgta caagggaatt 420
gaggatgttc tccttcatga cttcttggaa gatgtttcta ttcagtacct gaaatctgtg 480
cagttattta gtaagaaatt taagctgtgg ctccttaatg ctttggaggg tggtccagcc 540
ctcttgcaga tctccaaact caaaggtagg tttcgatgaa aaaaataaat tctgggctgg 600
cacagtggct catgcctgta atcccagcac tttggaaggc cgaggcagga ggatcgcttg 660
aggccaggag tttgagacca gcccgggcaa catggtgaga tcctgtctct acaaaaaagt 720
tttaaaaatt agctgagtgt ggtggcacac acctgtggtc ttagctactc agaaggctga 780
ggcgggaaga tcacttgagc ccaggaggtc aaggctacag tgagccatga tcatgtcact 840
gcactccagc ctgggtgatg gagcaagacc ctgtttttaa agtaaagaaa tacataaata 900
aataaattct gtaagcgtag atgaagcatc tgactttcac cctgggtggt agctttcagc 960
tgctgcccc a tgcactcagc tacagtccgg aaggcccagc ctgctcaggg tttctggctt 1020
ttagtgctgg tgatggattt ttgtgctgat ccagccacac cttttaagc tatttctctt 1080
ttgaataata acatggactt ttggcaggtc aagggtttct aggtgtggat attcaccagg 1140
gtattctcac acctgaattg caccatctct ctgctgagtt tctagaatgc tttccccttc 1200
tgtctggctg ccaggcagca gtctctgaat gctgcttcca ccaggctatt tatctgttca 1260
aggcctgcag tggcttccaa gcgcgagcct gaactgctct gtcagctggg ccagttccct 1320
ataaatctat cctctttgtg tccctgcagc tccatgctcc ttcaaaggcc agcctgcacc 1380
```

tgccatgccc tgtcggatca tcctggaaat acccattttc tccctcttgc ctttgtgaag 1440
ttttgctatc attgcctgca gctctcgaac tccctacggg gtcccaccct ccttgccagg 1500
tcagggtcat tttgtcacca agctggcacc agttattttc ccacatttct atgagtcttg 1560
cttcctttgc aattattttc taggtagtgc agatagggga cttctcaaag tgcctacagc 1620
ataggaccat gtctaategc cactcctccc gaccccacgc cccagctgt gtctactact 1680
aacactgggt accctgatcc agtttgtccc acttggaaat tttagggacg ttgcagaagg 1740
tgagactggg acttgctgca aaagcgggcc gaggagtggg gagcagagcc tccctccagt 1800
tttcctgtgc tcctttaaca tctgcccga ttcaagcctc tgtctcttca ttctgtaggc 1860
tacttcagcg gtttcctagt tggctatcct tcttccaccc ccttccccag ccacactccc 1920
tccaccccca gtgatcattc taaagcagca gttaatcaat taccaacctt ccctggcctc 1980
cactgcccag atggccact ctcctccact gctgtgcagt cattcacagt ttggcctctg 2040
gccccatccc tgtctccatc tccaaggga ctcccatgac cctctgccac agagatagtt 2100
ttggctcctg gcatctgttt cacttgttgc ttttggaaata tatgattcat atacttcagt 2160
catgcctaga ggaggaagag gaggaggagg acatggggac tgtcaaggaa atgctaccag 2220
atgacccgac tctcggccag ccagaccagg cacttttcca ttctctgaat tcctcactgt 2280
cgcaggcgtg tgccagcccc agcatggagc cactgggggt gatgccaca cacatgggcc 2340
agggccgata tcccgtgggt gtgagcaaca tggctctcag gatcctgggc ttcttggtgg 2400
aactgccat gggcaataag ctcatccagg tgctgttggg agatgaaacc actgaaagcg 2460
cagttaaact cagccttcct atgggacaag aagccctcat aaccctaaaa gatggacaac 2520
aatttgtgat tcagatatca gatgtacccc aaaactctga agatatttat ttcagagaaa 2580
acaatgctaa tgtgtgagat tatttatttg aatagagaat aagaaaactg atagacttgc 2640
attcttaaaa atattaaata ctaaagtttt tctattgacg aaagatgatg ttatgtatat 2700
aatagatgta gcattgtcta ttttatgttt atatgtattt caaggaggtg gtttcgataa 2760
aatatgtaaa ctgatttgga gaat 2784

<210> 577

<211> 1820

<212> DNA

<213> Homo sapiens

<400> 577

ccggtgagcc	gcctgccagc	tcctgctcca	gctgctgaga	ggcctgaaga	gaccaagaca	60
gagacacagc	cccgcagcac	cacagggagg	ccccagttac	cccatgcgga	tgagtttcat	120
ggccatctct	aactaaggac	aggacatcga	tgtcatctgt	aacttcctgt	gcactggggc	180
acacagctgc	atctcccat	gtcacctcc	tgccctctgc	tctgcccagt	gtgaggactc	240
agcctggatc	acctcctcca	ggacaagaac	aacctaccat	catctgtccg	tccaatctac	300
ccacccatcc	atctctgcct	ctgggcatgc	atccgtccgt	ccatccatcc	ccgcctctgt	360
gcatgcatct	gtccatccat	ccccgcctct	gtgcatgcat	ctgtccatcc	atccccgcct	420
ctgtgcatgc	atctgtccat	ccatccatcc	ctgcctctgt	gcatgcatct	gtccatccat	480
ccccgcctct	gtgcatgcat	ctgtccatcc	atccccgcct	ctgtgcacgc	gtctgtccgt	540
ccatccatcc	ctgcctctgt	gcatgcatct	gtccattcat	ccctgcctct	gtgcatgcat	600
ctgtccatcc	atccatcccc	gcctctgtgc	atgcatctgt	ccatccatcc	ctgcctctgt	660
gcatgcatct	gtccattcat	ccctgcctct	gtgcatgcat	ctgtccatcc	atccatccct	720
gcctctgtgc	atgcatctgt	ccattcatcc	ctgcctctgt	gcatgcatct	gtccatccat	780
ccatccccgc	ctctgtgcat	gcatctgtcc	attcatccct	gcctctgtgt	atgcatctgt	840
ccatccatcc	atccccgcct	ctgtgcatgc	atccgtccat	ccatccccgc	ctctgtgcat	900
gcatctgtcc	gtccatccat	ccctgcctct	gtgcatgcat	ctgtccgtcc	attcatccct	960
gcctctgtgc	atgcatctgt	ccattcatcc	atccctgact	ctgtgcatgc	atctgtccat	1020
ccatccatcc	ttgcctctat	gcttgcatth	gtccgtccat	ccatccctgc	ctctgtgcat	1080
gcatccatac	ctgcctctgt	gcatgcatct	gtcagtctat	caatccccga	tcccttcttt	1140
gtaatggtgt	tgagcgctca	caactccctc	atcctaagac	gctcgttgga	tccattccct	1200
ccccacacc	catgctgctc	tctgccctcc	cttcccggtc	aagttctcca	gccagtggtc	1260
tcaactcaat	cttcaacttc	cccgtcctc	tcacacctat	ccccactgca	ttctaaattc	1320
ttccccaacg	cgctgggcct	acaggcacta	aaaaggtcac	tttgtccctg	gatgacaaaa	1380
cacaggccaa	tgtaacttac	tgggcttggt	ttgccccagc	cacagctgac	cacttctctc	1440
ttcactcttg	ttgttgatca	cctttgggct	tagtctttct	ccatctctgc	tgagtccttc	1500
tcccctgcc	cctactcctt	catgctgggg	ttctctgtag	ctctgtacct	gacagtcacg	1560

ttccaccctt tcctcccaga agctcgccaa cccccgtgga ctgctggctc tcaaggcggc 1620
 cgctagccca gctccgacag cagctgacaa tgcacagtat gcggcccagg gcaggccctg 1680
 tgctgagagg catgggtgaa tggctcattt catcggcaag cccacgccac cagcaggcgc 1740
 cgttctcctc gcatttctca ggcgaggaac ctgagacaat gaggttaagg aagttgttta 1800
 ttacaagtgg aagaaccctg 1820

<210> 578

<211> 2562

<212> DNA

<213> Homo sapiens

<400> 578

agaagaccag atactattct gaagaactac acagaggag acaacaatgt catcactaaa 60
 agtaccacac acacggcctg tgctcttgct tactggttct tgtgtgataa tcacagggac 120
 accgatcatc cctttcgtca tggaccacac gctgcagggt gatttccata ccgagatgaa 180
 ggaagactca gacatcgctt tccatttccg agtgtacttt ggtcattggg tggatcatgaa 240
 cagccgcgtg aatggggctt ggcagtatga ggtgacatgc cacaatatgc cttttcagga 300
 tggtaaacca ttttaacctgt gcatctccgt gctggccgat gagtaccagc cgttcagaat 360
 aatatectac gttttgcaac acctgttttg ttcctcctct ctgaaaacat ttgaatttcc 420
 ttctttgcca ccaccattac atctctgggc aactccaaag agaaactggg ccatcagcag 480
 tcatagttaa tgggagttat agttcatgga actgaaatgt atgcattcaa tgaacactgt 540
 ccagcactaa ccccatggca ggccctgtgc aagacgcaag gattgaagtt catgagagac 600
 agtcccaggc catagggatc ttccagggtga gaggagaggc tgagcaaaca ggttctgtga 660
 tacacagggt ggtaaaacct ccttggagga atgagaggaa gcatttgaaa taaatgagca 720
 actgtctgaa gtaggcacaa gggtaatctg cagagagaag tgtgtctact gggttctgat 780
 gtataattag gggatttctg gttggatgct gtaggcacta gggctgagtg agatgatgct 840
 gaaaacttgt ttgatggcat attgtatttc tgatgcattt ttttcttttg taggtaatgg 900
 taaatggcca gaatgcttac agctttcccc actgactccc accatcttat gtgaagatgg 960

tgcaagtgtg gagagatgtc tccctgacct cagtgtctgt ctgtaattga tgaaatgata 1020
acattcctca tgggttaaaga atccctgttt ctgtgcgacc atggcatttc cagagcctgc 1080
taacagaacg atcactcctc accccttcct ctacacttgg tcattaaaac ttcaccaaata 1140
tttccagaat ctggttctta ctttcatgga gaaaaagaca aagtggcaca aggacacaag 1200
tgacacaagg ccaactgtgat gtctgagatt acataacgaa gacatccttt tatgtcagcc 1260
cgtactttac gtcagacact ctgaacaaaa attcctcctt cattgtagat gactcactcc 1320
agtgaatatgt tgggtagctg tttaaacct cacaggcata attgattttg gggagaagct 1380
ttgtaatttg aggaaagtca tatgaatatgt cttcattctt gcactcattc taaggatgtt 1440
tcctgtgtct taatactgtg tctggcgttg tgcaggaagc actgaaaaag ccgaggaaat 1500
gctgaccaag tttgcacctg aaattttgtt ttgtttgtgt tctttgagac aagttcttgc 1560
tctgtcattc aggctggact gcagtggcac cattaaggct cactgcagcc tcgacacct 1620
gggctcaaaa attcctcctg cctcagcccc ccaagtaggt gagaccacag gtgagcacca 1680
ccatggccag ctaatttctg catgtttttt ttgtagagat ggggttttgc catgttgccc 1740
aggctggtgt cgaactcctg aagtcaagca atccagcaac ctcggccac caaattgctg 1800
gcattacaag tgtgagcccc tgtgcttggc ctatacctga aaatttcaat ccaagccata 1860
gttagagaac cacaagagtt caataatttc cctcaaaaaa tccctttgtc atgttcaaaa 1920
gaactgccag atttttctat ttatgtggg cagaatcctg gatctcctt ttggaaataa 1980
atggtcatag ttttagatcg gaaaatatgt catatttgg tggaatgaac acaattcatt 2040
cacatggaca cggtagacca accctgcttt gctgctgcta ccgttggcat tgcagaaccg 2100
gaaacctccc caacacatat tcacataaag caaccattta ttctgatgtc tccctgcttt 2160
gcaggtttac tggactcatg cgggtggttag acacgcatgt gtgtgggagt cacgttttct 2220
gaaggacctc caggctggga tcccagagga ttcttcactt atgtttgact caacactaag 2280
ggactttcaa gaaaccaaag aagaagctgc caggcatcat agaacttagc tttgaaaatt 2340
ggagagtgtc acttttctat gacattatat tgattaagga ctggttctcg gcaacaatcg 2400
gtttcacctc cactcttcc cttcttggag ttctaccaa gatggcagaa tgacagtcct 2460
tttccctcta caagagctga gatcacctgc ttcatagcaa acctggagaa ccacttagca 2520
gaaacaacat gttacctaca aactaatgaa ggcagattga gt 2562

<210> 579

<211> 2083

<212> DNA

<213> Homo sapiens

<400> 579

```
ctgactttct gaagcctact tctgtcagct tgtcaaagtc atttccatcc atctttgttc 60
tggtgctggg gaggagctgc aatccttttg aggaaaagag gtgctctggg ttttagaatt 120
ttcagctttt ctgctctggg gtctcccat ctttgtgggt ttatctatct ttggctcttg 180
atgctgggtga cctacagatg gggttttggg gtggatgtca ttttatttgt tgatgttgct 240
attcctttct gttttagct ttccttctaa cagtcaggct cctcagctgc aggtctgtgg 300
gagtttgctg gaggtccact ccagaccctg tttgcctggg taccaccagc agaggctgca 360
gaacagcaaa tattgcagaa cagcaaatat tgctgcctga tccttcctct ggaagcatcg 420
tcccagaggg gcaccgcct gtatgagggt tcagtcggcc ctttctggga ggtgtctccc 480
agttaggcta catggaggct aggggtccac ttgaggaggc aggtgttct cagagctcaa 540
acaccatgct gggagaacca ctgctgagag ctgtcagaca gggatgttta agtctgcaga 600
agtttctgct gccttttgtt cagctatgcc ctgccccag aggtagggtc tatagaggca 660
gcagcccttg cagagctgtg gtgggctctg cccagttcga gcttcaccgg cactttgttt 720
acctactcaa gcctcagcaa tggcagacac cctcccccct gccaggctgc tgcctcacag 780
gtcaatctca gactgctgag ccagcagtga gcaaggctcc gtgggcgtgg gacctgctga 840
gccaggcaca ggatataatc tcctgggtgtg ccatttgcta agaccattgg agaagtgcag 900
tatttgggca ggagtgtccc gattttccag gtacagtctg tcatggcttc ctttggttag 960
gaatggaaaa tcctctgacc ccttacgctt cccgggtaaa gcgatgcccc gccctgcttc 1020
agctcacctt acgtgggctg caccactgt ccaaccagtc ccagtgagat gaaccaggta 1080
cctcagttgg aatgcagaa atcacgtct tctgcgtcga tcacactggg agctgcagac 1140
cggagctgtt cctatttggc catcttggga cggaatctta cttgttttat ttatgtatat 1200
atttttctga accattttga aagtaattgg tagccatcat gagaccttaa ctgaatctct 1260
ttgaaaaata aaggacattc tccatataa ccacagcacc atcatcaca tcattggcaa 1320
atctttatgt ttctttccag tcttttacac acatcaacac atacacaatc atatattcca 1380
```

acttgtaa at gattagttaa cttagtaagt tcaacttaag agttgaaatt acagtactca 1440
 cttattaact gacatgtttg atctttctcat ttctactgcc gccactccac ctccctctag 1500
 tgtattctgc ccacagcagc taaagtaatc tttttaaaac ataaatcaag tcttatcact 1560
 ctccctgccta aatcattcca ggttttctgt tctgcacat gccctgacct agcccctggc 1620
 ctcccttgct gatctcatct cctgccaat cccctgagtc acacaatgta ttttcagtcc 1680
 cttgaacacc ttcagctctt ttaccatgg tgccttggtc ttgaaattct cttggctttt 1740
 ttccatccct cagacttggg aaaacatctc ttactcaaag aggccttcag caactgcact 1800
 atctaaacag gtccaagtt aagttctgcc cttgccccta tttgtatctt tcatgacgt 1860
 tgccagtttg tgcttactca tggatatcac cctccagctc aggcctggta aataataagt 1920
 tgagtctata cattggtag ctttgccttc ctttagcagg aaataaaaaa tgggctgggc 1980
 atggtggctc atgcccgtta tcccagcacg ttgggaggct aaggtgggag gatcacttgg 2040
 agttccagac cagcctggtc aacacagtga gaccctgtct ctt 2083

<210> 580

<211> 1971

<212> DNA

<213> Homo sapiens

<400> 580

gagattatga tcaggtggca cagaaacctg ggatggtgaa aaaaccaggt tgcccctgca 60
 gattcggtgt ctgaagtaga acatatgcca ggggtcttgt aggcacgtgt gtgggttttt 120
 ggtgggaaag tctatgagga aaggtagcat gggcaacaat cttgatgccg aagccctgtg 180
 ctgggagggg cttgaccacg tcaacatgcg gtgcatatgt tcagtgggtg aaaaacatgt 240
 ggtggcctca ggttggcagg agggtagaag gcatctgttc tcagaacttc ttccctcaga 300
 gtcgtcggtc cttcttacca tgggaggatg cctggaacca cagggcagtg catggtgtag 360
 cagcctgtgt gcagagcaga gcctaccttc cccgagacac ctggagtctc tctccagcag 420
 aggccccac attgtctttc tttttacaat gtttttgatc ctaagtgtgg aaagttccct 480
 gaaaaccac tgattctcca acaccattt gttgcccac aatttaattc tgacacaact 540

tagagttcgc acagacccca caaattcagg gctcagtcce acatcacctc tctcactgta 600
gaggagagtt acacatccct gaagcccacg tacacttctg agctacctcc tataaatctg 660
agactagcat aaaccccttt tcaagttaaa taatttgata gaattactaa aaagataacc 720
tcaacaaata actgtaatta tattttactac tttattataa aaatataact cggaaacagc 780
caaatggaag agatgtctag ggcaaggaac agttgtgggt gaaggtaatc ctggaaatag 840
ctatatattaa agaaattccc ccattctttg cattctcaaa gaacagctta gtgaagagaa 900
acgtgcttcc cctgatgact ttgaggatgc tccctgctgt ttttttaacc tatcacaaaa 960
atggacacag attgcaaatt cccattttta aaaatgaaca accattcagt aatttagtct 1020
tcagtgggtca aaataacata ctctttacag aaactttgtt tgtttctctt cttccaacca 1080
gccccgaac ttgactcac ccacagcttc agcaaacctt caacccttat ttatacataa 1140
ccctcctaag aacaggctga gttcaagggtg aaacattatc ttatctggga tctcattttg 1200
ctaccctcca tcgtgtgctt cctttccaac cttctttgta aacttgtttt ctctcccta 1260
tgaaataagg cctttttcca cctaacctta gagatactca aagatctaatt catttgtact 1320
ttttctttgt tgcaatactt cttaggtaac ttcttagacc aagtctagaa acaatctgag 1380
gacaataaca attccattct aaaaagaatc tcccaacatt tcttctgtct caacctcaac 1440
tgcatctgcc tgtgaacttc cagcttacca aggtctctata tcttctggca gtgacaaagg 1500
ctccttccat ggttggtgtg agtaggcttg gacacctgca gggtagacac ccaggaataa 1560
tcaactgggc cttcagtggg cctcttttgc aggggtcaagg tgggccttag ctttttagtca 1620
atggtctaag acttctactt accagttagt cattcagtta gttttcaatt caaaaaatac 1680
ttcatgtttg aagaatccag caaaaattat tcaaattctaa ggtataaaaag agaggaaatt 1740
acagccgggc atggtgactc atgcctgtaa tccctgcatt ttgggaggct taggtgatcc 1800
acctgcttcg gcttcccaaa ttgctgggat tacaggcata agccaatata ctcagcctga 1860
gaattcatat ttgtaacaaa gtacaaatcc atagggcaca tgagaactac aatgtctatc 1920
tacagtaaatt acagtttgat gaataaaatg gaaggcaatt gacctaaggt g 1971

<210> 581

<211> 2466

<212> DNA

<213> Homo sapiens

<400> 581

gttgtgtgta	tttattgtaa	atggcattgg	agacttatgg	gacagattca	ggtcccctgt	60
ccccccaatt	tgaaaaaaaa	aaaaaaaaaa	caaccaaacc	accatgttga	ccaggctgat	120
gtcgaacttc	tgacctcggg	tgatccgcct	gccttggcct	cccaaagtgc	tgggattaca	180
ggcatgagcc	accgcatcat	ttaaattgtac	tgaaagtcca	ggcatggtgg	ttcagagcta	240
taaccctagt	actttgagag	gatgaggcag	gcagatcacc	tgaggtcagg	agttcaagac	300
cagcctggcc	aacatggcaa	aatcttgtct	ctacaaaaaa	aaaaaaaaaa	aaaaaattag	360
ccctgcgtgg	cggcgcacgg	ctctagtccc	agttacttgg	gaggttgggg	catgagaatc	420
ctttgaaccc	cggaggcaga	ggctgcatgc	agtgagttga	gatggcacca	ctgcactcca	480
gcctgggcga	cagagcaaga	ccctgtctct	aaataagtaa	atgttgccgg	taatcctagc	540
actttgggag	gctgaggcgg	gtggatcacc	tgaagtcagg	agttcgagac	cagcctgact	600
actatggtga	aaccccgctc	ctactaaaaa	tacaaaaatt	agctgggcat	tatggcatgt	660
gtctgtagtc	ccagctactc	aggaggctga	gacaggagaa	tcgcttgaac	ccaggacgtg	720
gagggtgcag	tgagccgaga	ttgagccact	gcacttcagc	ctgggtgaca	gagtgagact	780
ccatctcaaa	aaaaattaaa	taaaataaaa	aataaaaaata	acagctccct	aacagctccg	840
gaaagataaa	cagaaaacag	aaaatgacat	gctcagccct	tgaggccaaa	atgcccttcc	900
ccagagcagc	tgccagaaga	cagggagcag	gatcgggttg	gaggtcactt	ctgggtgagg	960
gggagaatgg	tcagaccctg	ggcaggggtg	ttggagcctg	gtcggcctca	ctggaacaga	1020
agagagctgc	ttcatgatgc	tcaactgaca	ggcagagcct	cgcattgacc	aagttctcat	1080
ggttcagaga	ggccagccag	tgcggggaca	aagacaggca	cgcactgaaa	tggtttcctg	1140
gaagacggcc	cggttgcatc	tctcaaacgg	gaccagattg	gaaggagagc	cagctgcttt	1200
gggcaaccga	ggctgcttct	gggtgaactc	ccaaactaga	tgggtgccgag	agccctggac	1260
ctggcagctg	ggctggacat	cacatggctc	tgtattccag	gaaacggcat	ctcagtgttt	1320
gtctggccag	ttctccaaaa	gaaccatcca	cgggccattt	ttccattccc	ttcctatgca	1380
cagactgggc	tgggcctgat	cagaaaactc	tcccttaggg	ttttcagtca	ctggcgaaac	1440
ttgagcccgg	cactgaggat	aggatgttaa	aatgtgactc	tgggccaggc	ggcggctcat	1500
gcttgtcaac	ccagtgtttt	tgggaggctg	agctgggagg	gtcacttgag	gtcagcagtt	1560

caagaccaac ctgaggaaaa tagatctcta caaaaaaata aaaataaaaa ttagccagct 1620
 ctggtgacat gcacctgtag tcccagctac ttgaaaggct gaggtggctt gagcccatga 1680
 gttcaaagct acagctatga tgggtgtcact gcactccagc atgaaaaaca gagtgagacc 1740
 atgtcttgaa aaaaggaaca aactaggcat agaagaaaca taccgaaaaa tggccaggcc 1800
 cagtggctca tgcgtgtaat cccagcactt tgggaggctg aggtgagtgg atcacctgag 1860
 gtcaggagtt cgagaccggc ctggccaaca tggtgaaacc ccatctctac caaaagtaca 1920
 aaaattagcc gggcgtggtg gcgggcgcct cccagctact ccggaggctg aggcaggaga 1980
 atcacttgaa cctgggaggc agagtttgct gtgagctgag attgcacat tgcactacag 2040
 cctgggtgac aagagccaga atccatctca aaaaaaaaaa cctagaaata ataaaagctg 2100
 tatacgacaa agccatagct aacctactac agaatgggga aaagtgaaaa gcgtttcctc 2160
 tgtaaacagg aacgagacga ggatgccgt tctcaccact tttattagac atcacacaaa 2220
 tatgcaagag aaaaaaataa aagccacca cactggaaaa gaggacatca aattatcctt 2280
 gtctgatgaa gatgtgatct tggatttaca aacatgtaaa gcctccacca gaaaactcta 2340
 gacttgataa ataaattaat acagtcattt gcaggataca aaatcaacat acaaaaatca 2400
 gcagcatttt atacaccaat aatggtctag gaaagaaatt aaggaggcaa tccatttac 2460
 aatagc 2466

<210> 582

<211> 2545

<212> DNA

<213> Homo sapiens

<400> 582

gtgtgcgagg acccatggta cagcgacagt ggcaggcacc ttcctgggg gagctgcggg 60
 tgcccttag gaagctggtg ccaaaccgag ccaggagctt tgacatctgt ctggagaagc 120
 ggaggctggt gagtggggct ggagcacagg tgggactgca gaggccagga acctgtgatg 180
 gggggagctg gaggggagga acagggaggg ggatctgggc agcatctggc caggatgacc 240
 gggctctctg ccctttcagg ccaagaggcc caagagcctg gacacagcct gtggcatgtc 300

cctctatgag gtgggtagga caactgggct gagcagagat gagggggcag gcctgggtggc 360
aggggcgtag gggacttgga ggaacctgag gccagctctc ataggccctg tgagccctca 420
ttgtcacagg ggacagccag gtgacaaagt gaggggtgact cccttgccag ggcagcccag 480
aggagctgtg gggcactggg acaagcagag tccctggggg cgcagctggg cagagacctg 540
ccttgaggca gaggtgaaa ctggcgcat ttgtccacgg cccgagatgg gaggtgggc 600
gaggtggaag agaggacaga tgggtggggc tccctggctg gggctctggc tgaggggagt 660
gtgggggcca ctctggggc aggctgtcct agacaggccc ttgtccggag gcagttaggg 720
tgactggcag gggtttgacg ccactagaga ccaaagacct agttagaacc cctgtggtcg 780
gtgggggagg cagctgggag gctgagagcg gggccctcta ccagctctc ccaaagtgc 840
cgggtgcccc gccccctggt ggagccacaa gttgctgcag ctgtcgatta gctaagccca 900
agtggctgaa gcccaccaag gtggcatgga caggccactt caccagcgc cagccccgtg 960
taccctccgc ccagatccc aagcacaaca gcgccggag catggtgggt gcccacagag 1020
cacttccgca ttctgagaa ccgcctgtga gcaagggtgt ggggctttcc gcaaattgaa 1080
acctaccctg cgggtgagag cagtgcaccc tccccgggt tctccctga gcctgttcag 1140
aagcaccagg gccagagtg tgacaaacga cactcagcat ctggtccca gggaaatagg 1200
gggtgaagag ggtggggttt tgaagagatc tgcttctcct tgggaagtga acatcctctc 1260
agagccgctt gcctacagg gtggctacac aactggatg ggaggccact tagggagcta 1320
ctggcatgtc agccagttcg ctccccctcc atgacagacg tatctgactg gtcattgtgt 1380
cagcaagcct cgcttttgggt caggccctgg aggggtacagc tgacctatag ggccacttcc 1440
atggcactgg gcaagtggct gtattggaaa tgaagtcgtt gccccgatt tctttggggc 1500
caggttgagc tttctgccc agagcacgga ggctaaaggg ggtgggcttt ggactgggtt 1560
ggggctgacc tcagcctaca cctgcaggag gaggtggaga cagaggtggc ctgggaggaa 1620
tgtgggcacg tcctactgtc actgtgttac agctctcagc aggggtggctt gctggtaggt 1680
gtgtgcgct gcgccacct ggcccccatg gatgccaatg gttactcgga ccccttcgtg 1740
cgcctgtgag tgaactgggg taggcaggcg ggaggtgagg ataaggcggg gactcctcac 1800
ctctccaggg ccacacctaa ccgcctaacc tccccgatc agtttctctg atccaaatgc 1860
agggaagaaa tctaaattca aaaccagtgt tcacaggacc ctgaaccccg agttcaatga 1920
ggtgagccag ggccaggcag gtcccagcca accctggcct tgacatgctg agccactacc 1980
ctaccgtggc ctgcttctta agctgtggga gagccgaggc tgcctccttc ccgcctctct 2040

gcccttctcc ctgcaggaat tcttttactc gggcccacgg gaggagctgg cccagaagac 2100
 gctgctgggtg tctgtgtggg actatgacct aggcacggct gatgacttca ttggtgagtg 2160
 ggaacatgag gagctgggggt gggggcccag taggctcctg gcggttcctg acccatcccc 2220
 catggcaggc ggggtgcagc tgggcagcca tgccagtggg gagcgctgc ggcactggct 2280
 tgagtgcctg ggccacagtg accaccgcct ggagctgtgg caccgctgg acagcaagcc 2340
 tgtccagctc agcgactagc ccatgggccc tgctgccgc cctccacta cagctgcctg 2400
 aaacgtcccc acaaaaatga tggcggctgg ggctgcctta cctcatgcc cagccccaag 2460
 tcagagaggt gtttcctctc tccccgttt cacattcacc ccacccaaa tcatggagcc 2520
 gaaataaaca tctccttcaa gccag 2545

<210> 583

<211> 1510

<212> DNA

<213> Homo sapiens

<400> 583

cagtgccagg ggctgcctcg cccggaacct caggaggcct gcagcctgga gccctgcccc 60
 cctaggtgga aagtcattgc ccttggcccc tgctcggcca gctgtggcct tggcactgct 120
 agacgctcgg tggcctgtgt gcagctcgac caaggccagg acgtggaggt ggacgaggcg 180
 gcctgtgcgg cgctggtgcg gcccagggcc agtgtccct gtctcattgc cgactgcacc 240
 taccgctggc atgttggcac ctggatggag tgctctgttt cctgtgggga tggcatccag 300
 cgccggcgtg acacctgcct cggaccccag gcccaggcgc ctgtgccagc tgatttctgc 360
 cagcacttgc ccaagccggt gactgtgcgt ggctgctggg ctgggcccctg tgtgggacag 420
 ggtacgcccc gcctggtgcc ccacgaagaa gccgctgctc caggacggac cacagccacc 480
 cctgctgggtg cctccctgga gtgggtcccag gcccggggcc tgctcttctc cccggctccc 540
 cagcctcggc ggctcctgcc cgggccccag gaaaactcag tgcagtccag tgcctgtggc 600
 aggcagcacc ttgagccaac aggaaccatt gacatgcgag gcccggggca ggcagactgt 660
 gcagtggcca ttgggaggcc cctcggggag gtggtgacct tccgcgtcct tgagagttct 720

ctcaactgca gtgcggggga catgttgctg ctttggggcc ggctcacctg gaggaagatg 780
 tgcaggaagc tggttgacat gactttcagc tccaagacca acacgctggt ggtgaggcag 840
 cgctgcgggc ggccaggagg tggggtgctg ctgcggtatg ggagccagct tgctcctgaa 900
 accttctaca gagaatgtga catgcagctc tttgggccct ggggtgaaat cgtgagcccc 960
 tcgctgagtc cagccacgag taatgcaggg ggctgccggc tcttcattaa tgtggctccg 1020
 cacgcacgga ttgccatcca tgccctggcc accaacaatgg gcgctgggac cgaggagacc 1080
 aatgccagct acatcttgat ccgggacacc cacagcttga ggaccacagc gttccatggg 1140
 cagcaggtgc tctactggga gtcagagagc agccaggctg agatggagtt cagcgagggc 1200
 ttcctgaagg ctgaggccag cctgcggggc cagtactgga cactccaatc atgggtaccg 1260
 gagatgcagg accctcagtc ctggaaggga aaggaaggaa cctgagggtc attgaacatt 1320
 tgttccgtgt ctggccagcc ctggagggtt gaccctggt ctcagtgtt tccaattcga 1380
 actttttcca atcttaggta tctactttag agtcttctcc aatgtccaaa aggctagggg 1440
 gttggaggtg gggactctgg aaaagcagcc cccatttcct cgggtaccaa taaataaaac 1500
 atgcaggctg 1510

<210> 584

<211> 1840

<212> DNA

<213> Homo sapiens

<400> 584

acgtggaccc cagcgccaac cccgccgagc ccgacggcgc cgccgagccg cccgtggtca 60
 agcggccgcg caagaagatg aagtggatcc ccaccagcaa cccgcttcg cagcccttca 120
 aggagccgct ggccatcatg cgcgtggaga acagcaaggc ggagaagccg aagcccgcg 180
 gcaggaagac ggccacggac acgtgatcg cgccgctgct ggaccgctcc gccaccact 240
 acaagggcgg agggggcgac ccgggccccg gccccgccc tgcccccgcc ccgccgccc 300
 cccctgacaa gaagcacgcg cgccacttct ccctggacgt gcaccctac atcctcgga 360
 ccaagaaggc caaggccgag gcggtgcccg ccgccctgcc cgcctcccgg agccaggagg 420

ggggcttcct gtcccaggcg gaggactgtg ggctaggcct ggccccggcg cccatcaaag 480
atgctccgct ccccgagaag gaaatcccg tccccacaga gccagcccgg gcagggttc 540
cctcgggggg cccgttccac gtccgctcac ctcccgccgc ccctgctgtg gcccctctga 600
caccagccag cctgggcaag gcggagcccc tcaccatcct gagccaaacg ccacacaccc 660
gctgctgcac atcaacacgc tgtacgaggc ccgggaggag gaggacgggg gccccgcct 720
gccgcaggac gtgggggacc tcatcgccat ccctgcccc aagcagatcc tcatcgccac 780
cttcgacgag ccgagaacgg tcgtgagtac tgtggagttt tgagggatgg caccgtccag 840
gccgccgaga gcccctctgc ctgtgtcgtg tggcctggcc agcctcccgg tggacaccag 900
ccctgcgtgg acgtggcctg tgcttcgccc gcactgcgcg catccccaac ctctgtccgc 960
atgcctgggg ccttcgcccc cacgtgctcg acagggggaac tcgcccggac ggcacgcca 1020
ggcactggct ggggtgggga aaggtggccc agtggagccg gtggccagga aggctgaagc 1080
ccgcctccca tgctcctgca tcaggtgccc agccgtgggt gggggccctg aggtgaagag 1140
tttatttttt tagtccgttt cgtcctggcc ccgggctgtg gcgagacagc ccaactcccc 1200
cagcccagct cccccagccc agagccaggg aagaggaagg tggggccagt cccaccagt 1260
gggtggccac gcccatgggg tcacatgctc aggggtcacc ccctgcaggg acctgatgcc 1320
ctcgggtggg agggaccgag gtccaccctc ggggtcaaagg tcaacgtgca ctttctcctt 1380
gtgcctgac agacatttta ttttactaag actgctgtac cgaacaagca tatttatcat 1440
caggagacag gatgggttta aagcaggatg gtgtgtgtgt gaacgggcat gagcagaggt 1500
gagcgtgagc gagcgggtgt gtatgtacga gtgtgcacgt gtgtgcgtgt gcacagaggg 1560
tgtggtgcca gcttgagtgg gagtgtgtga gtgtgagcag gcgggagagt gcgtgagtgc 1620
acgccagcgc gtggcccatg tatgaggagt gaaggggccc aacgcaataa ccacgtcccc 1680
caccggggcc ccccgccgcg gctgaggcca catggcttcc tgtgggagcc ccggccggca 1740
cccggtggt cccaccccaa atacctcagc catggagacc atgtcatgca gaattaacaa 1800
ggtagcaccg agcatatcaa taaatattat tctgataatc 1840

<210> 585

<211> 3744

<212> DNA

<213> Homo sapiens

<400> 585

gtgtaaattc agtcctcagg gaaccaaagg ccgagtctct gccccatgtg tcagagccgg	60
ctccagtgtc tgtgtgtgat ggggagttcc cagcttgcac taccagtac tcctggtcgg	120
ccatttatta acacagagga ccagcactgt gctagaaatt ccttggtaca tctgtttgtc	180
ttgggtaggc agcagcaggg cctgggagct gcgctcctgg ctggaaacag ttgcacttgg	240
atatcacttc tcagggtggg attaaacaca gacaaaagct gaggatttat gctgcagcac	300
agggctcggc agccacagag gccactctgt gagcgtcaag agggccagga gcaggagagt	360
ctggcctgga gatagggccg ctccactacc acccagtggc tcccaccctc ctggactcca	420
gccaggagtg cacaatcctc gtcttaaata ggattgagca aaggatggga caaccggcgt	480
ctgttgtata agcctagggg gctggggact gggggcctcg actgtcatgg ccgctgcact	540
aatttgtgga gttaactaac attattattc taactctggg aggaaaggac atttcagcca	600
ccgggctccc atgtgttcca ggaggctgct gaatgatgtt tctctagcgg cactgcttgg	660
taccaccccg cctggccctc cttctcgggg agcagccagc ctcttcgttt gaaggcatct	720
gtcctagagg tgcactgctt ctctttctga atggtgtgat tggaagtgat cccaagcac	780
tctgccactc ttccgcttat tttggcccag gcaaatccag ccaacattcg agctgtgggt	840
ccgctcagaa agaggctggc tcaactggcca gcctgctcag ggtctgccgt gtgcttccca	900
ccgcagcagc taccacaggc gctgagaaat cgctccctgg tctgtgtctg cagacgcaga	960
cccaggaggg gccccgccta cttccaggca caggctgctc gtccgcctgg ttttcttgga	1020
gggaactgct gcgtagattt ttcacgagca agtccttaca ggtggtttct gttttgagcc	1080
aggttttcag ctaggagctt ttttgggagt ctgtgcagat gaacaaaatc aacactggtc	1140
aaagtctaga tatctacgag gaggggataa attatgataa atacatctga tggatactag	1200
ctacatcttt ttattaagaa agtacttctg tgctaaatga aagaaagcag gacacaaact	1260
gaatatacgt tatgatccca agtatgttac aaaacagaaa gaaaaagatg ggaagaaaaa	1320
acacaaaaat attaacattg gttttcttga gaaaatggga attccgggtga tctcttttga	1380
tctctcctgt atttccttat aitttctgca gtgaatgtgt attaaacttt attattagaa	1440
aatgattttt aaaatttaag tcctagttca aaaaataaac gtgtcagaga aagggggcag	1500
atggactcct ccgacttaca gggcagctcc atggaacgcc atccaggtcc ccagtgttcc	1560

tgctggcagc actccactga taagcatgtt gagagtgagg aagttttcttc ccgcttctgt 1620
gccccctttc tcccaatggt ttcctcattg tcaggccacg tacataacctg ctgaattgag 1680
ttggaggcac gtgcattctg tatttttcta agagtagggc caggcttttc ctgagcagtc 1740
gggcagcggc agaggggtgc cctgtaggga gcttaccag gacctgccaa gcacacctcc 1800
ttggccacag tcacagcgca cgttctgagg caccaggctg aaggcgcagt gcctgtccca 1860
gcagtgataa gtatttgtgg ttgtttttg aatcagactg gggaagactt tgagccctgc 1920
tgagactcag agcatctccc ttttatttgc tttgctgttc gtgctaatta tggaagagct 1980
ctgtttttcc aggaggaatg gctcctgggt ggcccgttct cggccaccaa ggtaacaggg 2040
aaagtgggt gttcagtc gactgtggac tggacggagg tggcaccggt gggagaccaa 2100
cagaggaagc cctcctccc gctcccaatt ctggctttcg ctagaagaca agagaaatga 2160
ggaaaacagc taccctagga aatagccttc cttgaaaatg gtttcctttt tctcaggttt 2220
gatgagtttg gggatttgtt gttgtcattt ttttaagtaa aaaaaaatgc cccaaacatt 2280
agcgttcatt atcctagtct gatttgggtc cggctctacc ttaggagat gaatgtggta 2340
ggccaggggg cccctgtgga ttctaattta tgttttcagt tgtttgcat tttgtatctt 2400
cattacgggg ctactttcct gcctccctaa agtcactctt cccagcatgc tgtttctgga 2460
ctttatttag taccgtgggt acctcctgca ggctgtgtgg ccccatcctt caccaaatg 2520
tcacctcaat taattcggcg gccatgagac agatccatca gtggcccgcc gactcccgtc 2580
agcaggcgcc catgagtgat gggcacctcc acgcctccc cggccccccc ccccatgtg 2640
gagtcagccg ggcaggactc accatccctc tgggcacgag ggcatctggc tggcccgagt 2700
cctctcacac cttatgctga gggagacttc agcctcagga ggagaccca ggtgcattca 2760
ctccacctag ctggccttgt tccccagccc tgcactcagg gatgcctcag gagagccaac 2820
gctctggcag ggcagccagg tgccctttcc ctttgggcca ggcccaggca gtggggactt 2880
aattgaatct gtcattccc accccagctc cacacagcac agcactgcaa atggagctgg 2940
cagaagagct gacttctcat ttctctttcc tctcccttct ctggtccata ggtgtttgag 3000
gaactgtgga agagggaagg caagactcca gggcagattg tttcagaaaa gcagcttgaa 3060
ctgatgcagg accagggggc actggagcag ctctgccact ctgtgatgga ggccatcct 3120
caagtggatga ctatctcggg caggggagag ggccagagcc agccccagga catgcccag 3180
agcctcgcca tcgctccctg tggcagccca gaggctcttc ctaagaatgg ctgaccagt 3240
ttcatcaata attccctcac tgtcatcttt ttagttaagg taatggatgt gaagaacaga 3300

aaccccagag ctataaataa actgattggg ttggtccgga aagcgactca aagccgagca 3360
gatccagtca tgataaagga gacccctggag aagaagctgt cattgtgaga tgtttgggat 3420
ccccttgccc aagggaacaac aacaaacagt gcagcctgac tgggaacagg atcctgtgaa 3480
agctgatgcc catgtgccct gagagctgcc tctcaatccc tgtcccaagc cacagctatg 3540
gcgttaatgt caccagtgtt ctcaccctct aggccctgtg cctggaggtg cctccacagc 3600
cgaccagcag ccaccccgcc tgcttcatcc acatcaggag ggtccggtga ggctgcagca 3660
gtggttaagg agtaacacct tcttgtatta aggaatttta aactaaataa aatgtatgtt 3720
ggagatactg ttaccattc taag 3744

<210> 586

<211> 1860

<212> DNA

<213> Homo sapiens

<400> 586

aggctggtct caaactcatg acctcaggtg atccaccctc tttggcctcc caaagtgcta 60
ggatcacaga cgcgagccac catgcccggc ctttatTTTT atttttgaga caaggtctta 120
gttcttttgc tgaggctgga gtgcagtggc acaattatgg ctactgcag cctcagccac 180
ctgggggtcaa gagggcctcc cacctcaacc tccccagtag catgcaccac acctggctaa 240
tttttgtatt tttttagagg acggagtttc aatgtgttgc acaggctggt gtcggactcc 300
cgggctcaag caatccacc accttcagctt cccaacgtgc tgggactaca ggcattgagcc 360
actccacca gcatttcttt aacagtgtga caccacagct tctctcctt ccccttcag 420
ggaagccagc gaggtcaca tgccatccca ggctctctac ccagactctc cttgcaatgc 480
gaggtcttgg gcagcaaagc agagcccat tccccgggcc accccaactt cctctaggac 540
agagggtctg ggggctcata ttcaaccctc tccctgctcc cgaagccctg gaaaagagca 600
ggacacagga cagctctgac tcagctccac tgccagccag acgttctct cttaccgcc 660
ctgcccagcc tgacctggg ggctcgcccg caccctcctc cttaccagc tggctgaggg 720
tggccaccag gtccatttgg tgtttcagat acagcttagg cagccggacc ttggtgggcc 780

tctccacac cagaggtggg tgcagggtgt cccaactcag gctggccagt acctgggaca 840
cgttccattc aaagtgggtg ggtacaagga ccacaaagct catgttggtc ttaaagggga 900
aatgagccac ctacagaaaa gggaaggga gagcatgagg acagaaagcc ccgaagctaa 960
gtgggggtgg ggccagcagg tgctcctaag gcagacaatg gggctcctgg ccatcctgcc 1020
aggcgtgtga ctgacccac tgctcctcca cttcctcaca gtgggggtgga gtcatactac 1080
ctgtcccact gcaggcggac acgtaagcga atgagatgct tttaaagttt ctagcagtgt 1140
ggccgggcat gggggctcac gcctgtaatc ccagcacttt gggattctgc agcaaaagca 1200
gtgtggacac cacagggctc gagggcctcc tgcagctgtg actccttggg ttccaggcag 1260
agtaccctg tggagaacct ctgccctgg gaggataagc cccgggttct ggctgtttgg 1320
gcctgtctgc agagggcctg aggacaagaa aggctgacgg ggcctaagga aaggagacga 1380
aggatgaagg aagagtacgc aggacacagc ctggaggaaa ggggaagcag gaaaggggag 1440
cctcggggag gtggatcaga ctggcctttc agaatgagct gcagggaagc caggacgcgt 1500
tcccgggcca gcctcaccca cagccccctc ccacgagggc tgcccaagtg gcttctggct 1560
cctccctgca gaagtggctg tgctctgtgt cacacctgcc ttgggaagct aacaaatata 1620
gccatctcag ccacagctgt ctggcccggg gatcaatacc caggccaagg ggaccacatt 1680
taggctagaa gcaagagagg ccacacctga gacagcctgg cacggaattt tatccaatca 1740
gagctgggag cagtggctcc tgcctataat ccagcactt tgggaggcca aggcggggcg 1800
atcacttag gtcaggagtt tgagatcagc ctggccaaca tggtgaaacc tgtctctact 1860

<210> 587

<211> 2250

<212> DNA

<213> Homo sapiens

<400> 587

atctgcctag caggcggctc tcccctgctc cccaccgag cacagaccgt gggaggggac 60
cctgcgggag gaggtgctt cagtctccag agaccatctc ccatctctac agcgactccc 120
ctatgaccgt ccccccaccg gtgctctcgg gccacgggga agggacactc gggaaagaca 180

ccagagaccg ggagggtgca gctgggctct tcgcggggag cgggcgggag gccttcctgt 240
tacatgtcgc agctgggaca cagacggcag cgctccaggg tccacttgcc ggcttcggtt 300
ccctcaggcc caggaccagg ctccacaccg ctgtcgcgtc ccttagccgt gtgggctgta 360
gcacagaggg ggcaaacacc tccaggggct tgtgccaagt aattaccaag caaattcccg 420
gcgatttcct ctctccccc cgcccccccg ggcagtgcc gctgcgtgtt ccctgattcg 480
gccccggct gtgcaatcag ctccaggtaa cctgcgggga cccgtaattg ctctggagtt 540
gcctgcgagt ttgcaaggta agcacgcgcg gcgcttctcc ctggccctgg ggcgcgcggt 600
ggagcgcctt gcgccccccc ccgatgggcc ggatgccggg gacatgcgga agcagaggct 660
gcgggggtag agatccaact ccacggagtg agagagcagc tttgcgctaa tggggccggg 720
tgcaggaagc tgggtgcagag aggaaagaag gaagggagtc tgggcgactt gcgggaggag 780
agggggccacc tcgcatgtc cccaagggaag gggaccttgg gggacatggg atccttctgt 840
cccttcctc cagtgaagag gcgcttcatt gatgagcctt gtcatcatcc ttcaagtgt 900
atTTTTTaa attgcaaaaa tcttacagag ctattaacct caaaagagtt taacatatgg 960
cagaccgagt ctccctctta ccctaattat aaggcttgca gtaatggggc tgtcttttaa 1020
gttacagctg ctgcgctttt ggctttcgct aacattacat cctattaaag agctacatta 1080
aatgcatgca aattgccgga gcgacggcgc tctcccgacc agtgaggggg acggattgca 1140
gccgaggcgg cgatatcgga gtcagactca ccctgctgcg agcgccatat gatctatcaa 1200
tcaaactcct ctcatatt aactaattca ttaaatatct ttatatatga agggccggcc 1260
aggcagaaca ttgtgttgac agggacgtcc cgtcagcact tagccctgct ctccccacc 1320
ctccccctc gcacaaatct cccggtgact aagagaggtc agcttcccag tgttggcggg 1380
cacggaagca acggctgtgt ccactcctgg gggcgccctc cttgggcctc cttccgcatg 1440
aaccctatct gtccggcttc ctctggcgc gcctgcctc actcacctat tgctcgaatg 1500
agctgtgtgt gtatctgata cctccgctcg cctggcaacc cttagggtgc tcatcttgtg 1560
cccagggcc cagcactggc agatgctttg aatgttgggc tgaattggag tgcatctc 1620
tccagtactt ccaagtcac aaggccttcc tctgcaatat gcttctggaa gactgggtcac 1680
tctaggagg agaggaggtc agccatgtgt tcaggcggca tcccgggaga ggaggaggag 1740
ggcttatttg tggctctaga aaaggtatgg gggcaggcgg gaggaacttt taaagttcag 1800
agctggccag tgatgtagcc acaacacca gaatccgaag caaaccttg tgccaaggag 1860
aatgaatcta tgtcttctat gaacaacaga gacacatttt agaatggatg ctagggttga 1920

gcatggtggc tcctgcctgt aatcccagta ctttcggagg ctgaggctgg gggatcactt 1980
gagcttggga gtttgacacc agctgggcaa catagggaga cctcatctct acaaaacaaa 2040
caaacacaca aacaaacaaa caaataaata agcacggtgt ggtgatgtgt gcctgtggtt 2100
ccaactactt gactgaggtc ggaggatcac ttgagcctgg gaggttaagg ctgcagttag 2160
ctgtgatcac accactgcac tccagtctgg gcaacagagg gagaccctgt ctcaaaaaaa 2220
taacaataaa ataataaaaa ttaaaaaaat 2250

<210> 588

<211> 2142

<212> DNA

<213> Homo sapiens

<400> 588

tagcgtgaag aggattgtag aagcctgaac acactggaga gggggaatga ggggttccgc 60
ctggggactc gaggaagtgt ccctgaggaa gtcacactg agcaccaggc taagggtctt 120
cgacatggag ggggtggtaa gagcaaaggt tcacgtagaa gagaccagcg ctggagaggg 180
tagaggcaga ggggtctcaga acaaagaggc agtgtattca gaggctttcc agagagcctt 240
ccttattcca tttcaggcct cttttacggg tgcatttaaa gaggatgcgt taaattattg 300
ggtgtcaagt cagggtctgc tgtactgcat gtc catttg tattatttcc ttgagaacct 360
ttcttttaaa gcagttttac atctcatgtg gcagcccctg agaaacatac actgtttatc 420
tttgggacta cagaagaaga aacagggacc cagtatctgc ctggcccca tcctcttggt 480
agtgccttct gagctagaca gtgatgtgga cagacgtgcc gtgctcacc aggcttgggc 540
atttagtcct cacacagcct gagaagtagg gactgatagt atctccgtct tatagatgag 600
gagattgagt cgcagagaga ttaagtaacc cactcaaagt cacacagcca gtaagtggta 660
gagctaggca gtgtggttgt gcagaccttc catttgata gtaacaaagc cgctccttat 720
tgttaactag cttttatgga ttgtctgcca tagtccacac agatgtggag aaggtagaga 780
tactttcagc ctggattgta tgcagctctc gaggtgtggg cacagatcgc cagcttaggc 840
aagccctggg aaccaccgtc gccactgag catggttgca ggctttggag gggttgggct 900

ttgctataga acatctctga cagaagttca gttgttggtta cattctaaaa attctgtacc 960
tactacggca ggatagtcac gcatcgaagt cgccttagtg cctgtgagaa gccttctccg 1020
ctgacttact gcacccccat ctgagcatca catgccctcc tgccacatct tgttttagtgt 1080
gccctcttca ttctaagggc cattttgtgc cataagcagg ttccactcaa gccattttgg 1140
ggaggaggag gcagaggctg gtgagctcag cccactgagg gcaggtttca tgggtgtggac 1200
attgggtggg gtggcacgag gaaggaggga gaggctgggg ataccaacc agtggttttc 1260
ttggctttta aacttctttt aaagacgtga tgttgtgtat tcatggtttt tccagtcacc 1320
aaccattgat gggcatcaac aactttcatg ctttttcttt atttcttgta tgcagaataa 1380
gtcaggacac atacagggcc aactctgctt tttcacacat tcatcttact taaaatgctt 1440
cctctgccaa gcttttgtct agtccatggg cttttccagg cctcttcagc tcatctgtgt 1500
tcttcgtggg cttttccatt ttgttataag acatcttcat ttaatagtat gaaatgacgt 1560
agaggcatga ggtagtaaca gtgcatttaa atgacgtgag cataagacac tgtcctatag 1620
gaatagttga aacacagcca cacggtgcat gccgcacct tttaccaga gccctgtgca 1680
gtgtgcacca tcggatcatt agagcagctt tctatttggg tacagagttt tgggcaaaaa 1740
tatctgcagg tggttacatc gagcagggtc ctctgcactc agtttatgtg catccagtct 1800
tcgcatgggg agcagtggac tatgtcgggg aggcttgctc agagcgcatt taagcaagca 1860
tgttactgac ctggctaccc ttcacttgcc agggctttgc cttgggggtg tctgaggcag 1920
cccgttgtat gttacaagtc tgctcttcca ttatgccctg accctcagtc caagccctgg 1980
agcaaaaaag gggttcagaa gcacgtgaga ggctggagat gagggacatg tgttacggtc 2040
ctaaagacat agtgtaggga gattcaagtg ttttttttct gtcaagagcc ctggctttat 2100
tctgccttca gatttctttg agaaacccca tcaattactg gc 2142

<210> 589

<211> 2336

<212> DNA

<213> Homo sapiens

<400> 589

agtcgctatg cgtgtgcttg tgggtggcgg gacaggcttc attgggacag ccctaaccca 60
gctgctgaat gccagaggcc acgaagtga gttgggtctcc cgaaagcccg ggcccggccg 120
gatcacgtgg gtaagtccat cctctggaag cgggtgggag ggcagagttg ggcggcgcag 180
ggcggggcag gggcactgtg tgctttctcc gacaggatga gctcgctgcg tcggggctgc 240
cgagctgcga tgccgccgtc aacctggccg gagagaacat cctcaaccct ctccgaaggt 300
cagccccgggc cctaaagctg ataccacta gagcacaggg aggacagtgc cccactgatg 360
agaacctgtg agctatgggt aatggagctc ccagattccg aactaaaccg atatcccaga 420
ctactcattc tgctccactc ctccaccccc acctgtcct ccaccagtc agccaattgg 480
cttaagtcct cacgtataac tcaggatgcc caggaaatga atgcccttc cctctacagg 540
agacgttgac tgtttctctt aagccgaaat tcagggtctt acaagaaatt ggtatgaaat 600
agctcccagg aaaagacaga gagagggata tgtgcactta tgtatttagt ggctttttat 660
ttcccatgtt tctcctgcag atggaatgaa accttccaaa aagaggtaat cggcagccgc 720
ctagagacca cccaattgct ggctaaagcc atcaccaaag cccacaacc cccaaggcc 780
tgggtcttag tcacaggtgt aggtacgccc cccaaatcac cagcccctta tattegccag 840
gggaacgggg taactcagac ctctgtagct atgcacacac cagagcactg gtcttttcca 900
ggcaaaatga cttcctaggc cttgatcca tgcatgtttc tcctaacctt tgtgtacttt 960
cactaagaaa ttgagaccct gaaaaaacag tggggagtgg catcactcaa tgccagggaa 1020
aagtccacct atcccaaagt cccttacttc tcacaccata gttctttagg aacagagttc 1080
ctggtcacct ttgggaccaa gtaattgcaa acaattatac acaccagcca ctatttgaag 1140
tgttttatgc ttattatcat ttattcctta caacaaccct atgaggtagg tactattatt 1200
cccattttaa agatgtgaaa attctataca gagagggtta gtaacttgca tcaagtcaga 1260
gagttaataa atgagggagc tgattaaaat tcaggcgcct ggtaccaag ttctgtttct 1320
taaccactac actctagcag cctctaagtt tagccctgca accagagttc ctccagggaa 1380
ggaacgcttc aggtcatgga gaagttcaag gggaaaatat ccaaatggct ctgtctccaa 1440
atggggagat cctaagggcc agagaagctt actaccagcc cagtctgact gcggagtatg 1500
atgaagacag cccaggaggg gactttgact ttttctccaa cctcgtacc aaatgggaag 1560
ctgcagccag gcttcctgga gattctacac gccagggtgt ggtgcgctca ggggttgtgc 1620
tgggccgtgg ggggtgtgcc atgggccaca tgctgctgcc ctttcgcctg ggcctggggg 1680
tccccatcgg ctcaggccac caattcttcc cctggataca catcggggac ctggcaggaa 1740

tcctgacca tgcccttgaa gcaaaccacg tgcacggggt cctgaatgga gtggctccat 1800
 cctccgccac taatgctgag tttgccaga ccttgggtgc tgccctgggc cgccgagcct 1860
 tcatccctct cccagcgct gtggtgcaag ctgtctttgg gcgacagcgt gccatcatgc 1920
 tgctggaggg ccagaaggtg atcccacagc gaacactggc cactggctac cagtattcct 1980
 tcccagagct aggggctgcc ttaaaggaaa ttgtagccta agtaggtcgt ggcaagggcc 2040
 tgaggcctgt tcctcacagg cttccagggt aggcactgtg aataggctca gtcctcttag 2100
 agagctgaag ccatctgggt cttagattcc tctcccagtc ctctttccca ttgttctgtt 2160
 gctccacctt attgtctcaa ggccgtaatc tcatcagggt gggacattaa tcttttcaac 2220
 tccttgtaag atttcccagt ttggttttctc tacatgtcct gcagctgccc cacttctcct 2280
 ttacgctgtg tagagaatgc tctgcagttt aggcaataaa aataaattgt ctcact 2336

<210> 590

<211> 2939

<212> DNA

<213> Homo sapiens

<400> 590

tctttgccct gtggggcttc tctccttgat gcttctttct ttttttaaag acaacctgcc 60
 attaccacat gactcaataa accattgctc ttcattctcag gctttggggt tggctgggga 120
 aggaggcatc ccggggctgg gctttctccc aagaacatca gagctgagta gccgacaaac 180
 tcactttggg gccgtgggct ggaagggacc atctgatgcc ccagagctct ggcttggcct 240
 tctccctctg cctttaattc acgttgaacg ctgggtacct cactcatccc aagtctctca 300
 aactgagca aatgcaagga tagcacagta ctgagccaac catagactcc ccacaaggag 360
 ttgctgttgt tattaacagg aagccagaga atcagcaggg tgggttagtg aggatccgg 420
 gaatagctgt gactggagcc tgcataaaca gctctgaagg gagagagaag actgggctct 480
 cttgtgtgcc aggcacagta tggaaggctt catataagtt aagctgaaat tagccctgtt 540
 ttacatacag cttcatttta catatgagga aactgaggct ttgaaaaaaa tgagatgtct 600
 tgtccaagat gaaaagtagt agattcaacc aagtcctctt actctaagcc caacgctttt 660

acccaaaacc ccagagtcct catcagggat gccaaatggt tctagacca gtggaggttc 720
tggagctgcc actggggatt taatttcttt tgatttgcta aagatttgac ctgactgaat 780
ggagaggtag agtgtagtgt ggccaggaca aggtgaggga ggctgtagag acttagcact 840
ttaggccaac cacctccagg aaatctggga aatgcaatgt gacagctcgg gctctgcact 900
ccagggggct gtctggtgtc cacatggacc ttctccatgt gggacacagc tggaacaagg 960
gggcaggggc ctgcagctgg gatgccagg tgaatatggg cagctggaca aacaacactg 1020
ggattgagtc agatagaagg ggcccaagga ctccagggct gggaggacgg aggctgggag 1080
agagggtctt tacctcctta ggccctccaa agagcgggta gggatgctgc catggatggc 1140
atggcagggg gaacctcctt ggaagaaaat ccatctcttc tgaagggatc tgagatgcgg 1200
ctggtttttc aatggcagaa cttccctctg cggcgcgact ccgaatccat gacatctgag 1260
agtcttcctg accacaaacc tctgggatcc cgagggtccc ctaccaaga atcactttga 1320
gcacagcatc ccaaggagcc catagagcga tcccttgcac tcacagccac agcccctctg 1380
gggacactct gtacccccgg tagacccttt ccaactcaca accaataaag gggcttgggc 1440
tgtgctttga ctaaggtagc catggtttta aactcgcctt tctttcccgg aggtgagctg 1500
ggcttgccag gagcctctgc tcagagcggg tgtttgttga ctgtgggatg tgttccccat 1560
gtaacaggcc ttggctagta cccatccaat attctgcca tgggtcaaacc atgggtcccc 1620
ttttcgggct cagaaaataa ggccatttat gtatcgggcg aaagaaagac aattcgacgt 1680
gccccggcat ttggggtggt gttgggagga gtcaggctgg cacatggggg gacgcaatga 1740
agaaaggtgg gatggcaagg acagggagga cacgcagggg gctttgaggg ttggccgagg 1800
ggccactttc acctggggta gggagggcgg cttctgtgag tggtcgcagg tgaagggggg 1860
ttgctttatg gtgcagggga gccagggtt ctctgggggt ggtatgtgtg tttgtaggag 1920
aattggggat gaggatgggc caaaaacatt gctgaggcat tgagagcact gagggcctat 1980
cccttcccc tggaataatc cctttcactg ctcatgtaga gagaccact gagcttccca 2040
ggcagtttac tcttaacttc tccctggtcc attaccctca ctctcttca tctcaggtt 2100
ctagcacagg ccaggccagc ccagggtgct aggagcttgc aggaaattca tgtggaccaa 2160
ccaactctgg caggtcagtg ggtttcttgc tgggaaaggg ggcagctgga accctgcctg 2220
ggggccacca gatgaacaga attgctgtga ccccgtaacc tctaccaca agttccagga 2280
ctagagacag cggaactggg agtcctcacc tacaagcca gccccaggc tagttccaac 2340
ccctcccctt gtcacatcat ctcttacttc tccaatatcc ttgcatgag ttgtgagact 2400

aagaaacatg tatcttctgc cctctgtgtg ccaaacacac actcaaaaac acacactcaa 2460
ccctggtgac aacttcaggc aagaggagtt agtgaaacct actggaagtg gaagcaggag 2520
cctccaaata gaaacagaaa gacagacagg ttgaggctgt tgctaagatc tcccctctcc 2580
cacctgccct caccatcttc ccacttccac cacccaaaat acacacacct ttcccatcca 2640
taccaacatg aggcttcctg gccaggcact gtggctcacg cctgtaatcc tagcactttg 2700
ggaggctgag gcggttgat catgagggtca ggagtttgag accagcctgg ccaacatggt 2760
gaaaccccgt ctctactaaa aacacaaaaa ttagccaggc atgttggcgc atgcctgtaa 2820
tcccagctac tcaagaggct gaggcaggag aatcacttga accctggaga cggaggttgc 2880
agtgagctga gatcgacca ctgcactcta gcctgggtga cagagcaaaa ctctatctc 2939

<210> 591

<211> 1797

<212> DNA

<213> Homo sapiens

<400> 591

gtatttaaaa ctagttaaga tcttctgatt tacctgagcg ggtggggaaa cccaccccat 60
gagcatcccc tgggctcacc cagtgcacag agggaggcct cccgtggctg ggcccctctc 120
agtcagccca tgtggctgcc atgacctgga gcaccacagc cggggggcgcc caccagctca 180
acaccaccac attcacgtgg cagcacctcc ctgcctggca accgctgctg ttggccagca 240
ttaggtgca gctcttcttc tacgtgggcc tggccttcat cagcctggac ctctattact 300
cctccaccag catcaaggag ctggagtaca actacaccgg cgaccgggc accagcaact 360
gctcgggtgtg tgctgtggct ggccagggct gtgtgccact gccatctgc tcatgcgcct 420
ggtacttctc actgcctgag ctcttccagg gccctgtgta cccctactac gtgctgacca 480
acttctacca aaacaaccgg cgatatggag tgtccgcgac aacgcgcagc tgagcgggct 540
gcccagcacg ctgcaccatc cagtcaatga gtgcaccac tgcgccgct gccatcgtg 600
caccctgcaa tgatcatcacc aacagcctct tcaacgactc ctcgctgtgg caccagtgtc 660
ggcccggcga gccctacgtg gaggtgccgc gctaccgcac tgcgcctgca tcaccggta 720

gaccaactac cccatcaagt tctgcaaccc accactgggtc aacggcagcc tggcactggc 780
cttccatggc acagcacccc tgcccaactg gcgctggctg gtctacgaca agctcagccc 840
catccccaac aacaacggct tcatcaacca ggacttcgtg gtgtggatgc gcatggcagc 900
gctgcccacg ttccgcaagc tgttccgcaa gctgtacggg cacatccgcc agggcaacta 960
ctcagctggg ctgccgcggt gtgtctactg tgtcaacatc acctacaact acctggtaag 1020
aagcgcaatt ccacactcta cataacctatg ttactcattg ttccagtcac cgtcgcaggt 1080
gcaatcatag tactcctgct ttacctaaaa aggcctcaaga ttattatatt cctccaatt 1140
cctgatcctg gcaagatfff taaagaaatg tttggagacc agaagatga tactctgcac 1200
tggaagaagt acgacatcta tgagaagcaa accaaggagg aaaccgactc tgtagtgctg 1260
atagaaaacc tgaagaaagc ctctcagtga tggagataat ttatffffac cttcactgtg 1320
accttgagaa gattcttccc attctccatt tgttatctgg gaacttatta aatggaaact 1380
gaaactactg caccatttaa aaacaggcag ctcataagag ccacaggtct ttatgttgag 1440
tcgcgcaccg aaaaactaaa aataatgggc gctttggaga agagtgtgga gtcattctca 1500
ttgaattata aaagccagca ggcttcaaac taggggacaa agcaaaaagt gatgatagtg 1560
gtggagttaa tcttatcaag agttgtgaca acttcctgag ggatctatac ttgctttgtg 1620
ttctttgtgt caacatgaac aaatffffatt ttagggggaa ctcatfagggt gtgcaaatgc 1680
taatgtcaaa cttgagtcac aaagaacatg tagaaaacaa aatggataaa atctgatatg 1740
tattgtttgg gatcctattg aaccatgttt gtggctatta aaactctfff aacagtc 1797

<210> 592

<211> 2428

<212> DNA

<213> Homo sapiens

<400> 592

agctgacggc tggatgaccc ctctgaacgg tcccggctgt ggatgcccac agagaaacgg 60
ggatttcagc tttggggctc tgattcttcc cagatgagag gacgcatcgg ggctgccgct 120
cgctctacga ggccagcatg ggggctctgg atgggtcact tgttcttgcc caaggggtga 180

atgatgacac agactccatg cccaccccc tcagctgccc agccagtctg accaagacgg 240
agtggccctt ccacttctat tctccgcggg tctccgagga tgtgggatgc gggagaggga 300
ggaggggcag gaggaagacc aggaacggag gacgggagct ctgtgcgaga gacacgggtt 360
cagaaacca gcagcacagc agcaagcgcc ctcccgcccc ccgaccagtg actcccacgg 420
caggtgcaat ccacaaaacc acaggccacc caaggtgtac ccgcctctcc caggagcctt 480
tctgccagag accccaagcc ggggtgccctc cacactgggc cgcaagggtta ggtggggccg 540
ctgtggcact ggtaccagt ggggtgcctgt caaacagggtg tcaaccgact aattgcagcc 600
cagctgggtcc cagagaccag ccagacaccc ttctactga ggatgaggtc ctacactgcg 660
agggccccc ctgtccggct gtcccggaca cagccccact aagcatgcgg gaggcacccc 720
acttggcacc ccgcagccc gcccatacca gccagcagcc tggccctggc tggctgcctt 780
ccagcaagcc atgactgtcg gcccggcttg gaggacgtct ggtcaccttg catttgcagt 840
ctgaggaagc tgtgtcattc cgctacatcc agaggtgact caggcagctg cagcagcaga 900
gagcagactg cagaacacac cacaccccct ccagtccccg ccctggctcc caccacacca 960
tcctcctgtc ctcggcctcc agctccccat cagcatcctg ttctccccg gccgccttg 1020
ggcttcaatc cgctcccagc ctctaagtcc agtcaggggc attccggggg gccagatgc 1080
ccccagccc ccaaccgcat cattcacgg agttgcccct gccctctct cttttctca 1140
tccacgcgc aaccaggctt gatccagcc ctcaagcat acccgctga acccacagca 1200
cctgccagg ctccggcctc cagcgtctcc tgtctggacc acagctttgc caaatgggat 1260
gccctcacc tgatcctggt gccccccaca cagccccaca ggcagtcaaa agtcttgggg 1320
gttctccca aaccccact ccccccccc aatgccgttt caggtttctg atcaccatct 1380
gcagagagca cgtgggttccc tgccctgctt cttccagaaa cactccccac tgctctctc 1440
ctcgcgtagg caagcacct ctaccaaggc ctggttctag atccttctgg ggacaggggg 1500
cctccccaag gcatggtgag ctcttgcaa gcagggagaa ggtcttcct acaccccaca 1560
ctagccccg ctgtacgaga tgagccggcc ccgcatggga gggcaggag agggcagtct 1620
ccacccaat accttcccc ggacaccga cgcacagtgc ggagaagcag gaaggctcta 1680
caccagacc caccggcctg tgggacaggc cagcagacct catggcctgg gcttctcat 1740
ctacagcagc tggtcggggg gtggggcatg tggccactca agttcgcttg tacctgctct 1800
aaaactctat gattttaaga cgacactccc agtttctga aactgtagga aagcggaac 1860
atgacgagtc tgtgacttat aaaaagcaaa aataaatagc ggggaaaggc atcttcatt 1920

cgcgagagc agggagggtg gggacggagc ggtgagtcac tgtttactgt tgaaaggcgg 1980
 ccacacggag ccctctctca gctggccaga tttccatttc ccgtgtggac tggacccgaa 2040
 acccagaaag tccactccag aaaccttttag actcagaaac agctgggaca agaacaggca 2100
 caacttcttc tccgtctggg tggcaaacag ctttgccaga gactgtaaac aaacgcagcc 2160
 atcgctgagc cccgtgggtg aaagcacacg ccttgtagac agcgaagtgg cccggaagac 2220
 ggtctccctt aacagcagcc tcccgggtgc acacaaaggc tggcgccccg acaaccctga 2280
 ccctcggtaa acgctggctc ccgggtttac cagcacctgg ggagtcgacg ctgcgggcaa 2340
 ccagcccctc aaagccctgg ctcggttcaa ggataaaagg caggagaagc ctggtttttc 2400
 tgctttaata aatgtcttat tttggaat 2428

<210> 593

<211> 2617

<212> DNA

<213> Homo sapiens

<400> 593

ttttttctc ttggctttct atcaagtatg agacagagct ctgcaaagaa ttatataagc 60
 ctctgggaag cagccgaagg ctcgtaaatt ttctgggcaa tgagactgct tcatcctgaa 120
 tcacgttgct gtgggaggag ggcaccctga gtgaccctga ggtataaacc ccaagtgctc 180
 ttgagtggag tctgcctctg tctctcctg atcagcacc ttggcctctt tgtgggggtt 240
 acataggagc tcgtgctgat ccctgagggg ctgaccgag aggggtcagg atgctgaaac 300
 tgtcttctta gtggcttctt cactgcatac cacaggcca ggcacattgt gaatgtttgg 360
 caaatatttg tggaaggaat gaattgtggg ctgaccgtgt gctctcgcc tctatcagca 420
 tttcattctg tcacagccat tttcccctgc aagattggtg gaggggaaag ggtaggcctc 480
 ctgggagagg ttctggatct ttctgccatc tgctttgttc catgggtcag ccctgaaatt 540
 agggcatttg gatgggtttg cagcctcaaa gtggagaatg gattctgcct gcgaggatgt 600
 gtaagcatca cttcatcgat ggtttgctgt tactcaactt ccagattacc ttttgagcac 660
 ctttttagga aagagaggaa agttaataaa ttacatttta cccactgtgt gtctgggact 720

tcttgcacat gaactcattc aaacctggaa acagtcttct gaggcattcat taccctcatt 780
gttttagaaat ataatgaggc ccagagagtt ccacccatgt gtccaaggcc aaaaaagcta 840
atccatgatg gagctggaat tggacccagg gctctctgac ccatatgtgt cctagacaga 900
cagaaagaat gagtcccat taggtagtga cttgttgata cccatatgtg gagaaccgag 960
acctcaaacc agaagtccta gagctctcag aggaaacaca cccgctcaga ggaaaccac 1020
cttcctcaga ggaaaccac tcccctcaga agaaaccac ccccgagag gaaaccacc 1080
ccctcagagg aaaccaccc ccctcagagg aaactgactc tctgcagagg aaaccaccc 1140
cccgagagg aaaccaccc accgagagg aaaccacca ccagcagagg aaatccacc 1200
ccagcaggag ctgcagagtt tcttgggtgg gctattggcc gcttttaagt ttttctcatc 1260
tgtatctctt ctgaggagg catcctcatg gtgagaacag aatgatgact tctgcattgg 1320
ttaagggttt atacagagag gaggttggtg ttggagccac gttggactat ttctgcccgt 1380
ttgctggtca gcactcattt ctatacttaa tctacaaata gctttgtgga agtcagagca 1440
agatagaggg atagaggttc gaagccttgg tgctgcctgg ggtaggtggg gtctatggtt 1500
caaggctctg atcttcattt ttgcaggcgg agaaactcca tctatccatc catcaaagat 1560
ttattgagtt tcttcatgac caggccctgc tcacggtgtt agggattcag cagaaagaaa 1620
cacaacaaa acttctacg cacacagaga gtgtttcctt gttgacgcc tcaataatgt 1680
gtgtgcctca gaggttatca ggcacctggg agactgactc acgttaactt cctagaagct 1740
gacatactca cctgatgcta catggttcct tgactgggtg tgaatcgacc tctacactgg 1800
ttggaattct tgtgcctgga atcctcgggg cctgagaggc tgagttcatt tgactgctga 1860
catcagatcc cagggatgtg ggtggttcca gatgcattcc cttttgccct ggagaaggcc 1920
ctgcacctga atgcatcttg gaggggagat tatatttgaa ttgataaaat ttggtgactg 1980
cttagctcag tgttagaagt ttttaaaatt tgtggtaaaa tatacttaac atctttacct 2040
tgttaacat ttttaagtga cagtttagtg gcatcaaata tattcacaat gttgtataac 2100
cattactatc atctacactc agaactcttt catcatcccc aacataaacc cattacacaa 2160
taactccga ttcctccctc ctatcaacct ctgacaacca cctttctttc tgtctctacc 2220
aatttgccta ttctaagtgc ctcacttgag tggaatcata caatatttct ctttctgtgt 2280
ctgtcttatt ttacttagca taatgttttc aaggtctatt tgtatttttag catttatcaa 2340
aatttcaagc tgggcgcggt ggctcacgcc tgtaatccca gcactttggg aggctgaagc 2400
aggcgataa cctgagggtca ggagttcaag atcagcctgg ccaacatggt gaaaccctgt 2460

ctctactaaa aacacaaaaa ttagccaggt gtggtggtac gcgtctgtaa tctcagctga 2520
ggcagggaaa tcgcttgaac ccgggggacg gaggttgcag tgagctgaga acatgccaat 2580
gcactccagc ctggatgaca gagcaagact ccatctc 2617

<210> 594

<211> 2540

<212> DNA

<213> Homo sapiens

<400> 594

agacctcgca aatctcggcg actgggacga gccctgcgtt cctgtcaaac aaatgtcgg 60
gggagtctgg ctgagtgttc aggacgtttg cgaaaagaag cctcgcgcct gtggggaagc 120
agcctttacg catgactggg actggagtag cgtggagttt taagatgctg aaagcctctt 180
ctccgagaaa actcccctaa gaaactctct gaatctccct atctctcagt ttattcccct 240
tccatgtccc tttgggtgcc atctggtctc catgagaact taacagatgc aacaacagag 300
ggcacaggat ttcggagatc gtggcaatat gtgtcaagtg cagagggcac aggatttcgg 360
agatcgtggc aatatgtgtc aagtgc aaac ttacaggag aaaccaatgc acattctcca 420
gaagaaatga gaacgcattt ctgcatgcct ccttccccca cccctctgcc tttggcccag 480
ccttatgttt tttttttgc ttttgatttt ccaaggttac atctctttct tctttttttt 540
ttttttccc caacagagtc tcgctttgtc gcccagactg tagtgcagtg gtgcgatcac 600
ggctcactgc agtctccacc tcttgggctc aacgatactc ccgcctcagc ctcttgagtg 660
agtagctgag actacagacg caagccacca cgcccggcta tttttgcgtt tttttagag 720
acgggggtctc gccatgttgc ccaggctggt ctccgactcc agggctcaaa tgatgctccc 780
atctcggcct cccaaagtgc tgggattaca ggtgtgaacc accacgcccga gcctagattg 840
aataatttga caacaaattg gaattagcaa cgcagacgtc aagtggagtc tcagcagaaa 900
ttgctgctgg aatgcacctc catagctctg gacagctcta gggtcctttg tggaggagg 960
ggctggcccc agaacaagcg tctttattgc caagtgagaa atgagcaaaa acaaaacaac 1020
acttctcagg cctctccagc ttagctagat caaatggttt tgatgtggga gagtggtttc 1080

cactatcgtc accaagaatt ttcctcctac actaccccag ctagaaagtt atgttgtctc 1140
ctcaacactc cccaaggtga tctatgaagc tagtcaagtc ccagcacttt gggaggccga 1200
ggtgggtgga ttacctgagg tcaggagttc gagaccagcc tggccaacgt ggtgaaaccc 1260
cgtctctgct gaaagtgcag aaattagctg ggtgtggtgg tgcatgcctg tggtcccagc 1320
tactcgggag gctgaggcgg gagaaacact tgaacctggg aggcagaggt gacagtgage 1380
cgagatcaca ccactgcact ctggagtgga gacttggatg gagaccacga ctctctctca 1440
aaaaacaaaa acaaaaacaa acaaaaaata ctcaagtgtg gagaacactg actctgaaca 1500
gaggactctg acatttctta atgcagcctg aaattaaggc caaagacatt accagtctgg 1560
atggatatag gaatcacaca ccactctcca gctgctttta atgcagcctg gttcacaga 1620
ttctccaact ctgctccgga aaagccaaca gtacctcgag ctataatttc tggatcaacg 1680
gctaattgtaa aaagagaaca caacgcta atgtctaaaa caggtaaaag aaagctcttc 1740
acaaagaact cacattccaa ctgggtgcgt tggctcatgc ctgtaatccc agcactttgg 1800
gaggctgggg caggcagatc acctaaggac aggagtggga gaccatcctg gccaacatgg 1860
tgaaacccca tctctactaa aaatacaaaa attagctggg catggtggca tgcacctgta 1920
atcccagcta ttcagaaggc tgaggcagaa gaatcacttg aaccggggag gtggaggttg 1980
cagtaagcca agattgtgcc actccactcc atcctaggca aaaagggcaa aactcttgct 2040
tcaaaaaaaaa accaaaaaaaa aaaacacctc acattccaag ggaaaaaaga aaatagctag 2100
ctattctgag ccatagttaa gtcacttttt ctctgaattt catctggaaa tacttttagac 2160
ataaaagctg cccttatagg aaacatgtat agtttaatga attgatacag ctatctctga 2220
aactactgca gctttaataa tttcatttat tactcaagtg agtaataaat ttccatgtgt 2280
tttgttttat aatttgcttt ctctcttttt ggccccacac tgactatata atgagttact 2340
gtttctgcag ctttttaaaa ttattttgca ttttacattc atcttaaaaa aatgtgtgtg 2400
tgtgtatgta tatgtatgta tctcaaata ttatctgtct gaatactcta aaaaaacctt 2460
tcttagact cagggttcaa aacaatagaa tctcctggat atacactaag gaatggactt 2520
ttaaacgaac atactaatgg 2540

<210> 595

<211> 1800

<212> DNA

<213> Homo sapiens

<400> 595

gtcccgcg	gggtccaac	ggacctcc	caccgccat	cttcg	gcgtcatt	gt aactgtactt	60
caccagcacc	actaaccgga	aatctggccc	ttgccagaaa	atttatccgc	cagtgtctggc	120	
ggaggtcttc	tctttccact	tggaaccgct	aactgcattc	gaagtttggt	gattcattacg	180	
catttttgca	gtacagggtta	caatacaacc	atttgctctg	atggatcctc	atactgaaga	240	
gttgccctcag	tacatacata	taaatcagaa	tgagttttgc	atacgaaggc	ataagaagca	300	
gaaggaggag	gatattgcta	tatgtgaatg	caaatatgat	gctgatgacc	ctgacaatgc	360	
atgtggggat	agctgcctga	atgtattaac	cagcactgaa	tgcacccttg	gttattgtca	420	
ttgtgatata	ttatgcaaaa	atcagaaatt	tcagaagtgt	gaatatgcaa	aaacaaagtt	480	
gtttaaaact	gaaggccgtg	gatggggctc	tttggtgat	gaggatatta	aggcaggaca	540	
atttgtcatt	gaatactgtg	gagaagtaat	atcatggaaa	gaagccaaac	gtagatccca	600	
ggcttatgaa	aatcaaggtc	ttaaagatgc	atttatcatt	ttccttaatg	tgtctgaatc	660	
tattgatgca	accaggaaag	gaagccttgc	tagatttata	aatcattcct	gtcaaccgaa	720	
ctgtgagacg	agaaaatgga	atgtgttggg	ggaaataaga	gttggaatat	ttgcaaaaca	780	
tgatattcct	attggaactg	agtttagctta	tgattataat	tttgaatggg	ttgggtggtgc	840	
caaggttcgt	tgcctctgtg	gtgcactaaa	atgttctgga	ttccttggag	caaaatctcg	900	
aggttttcag	gaggatactt	atctatggga	agatgatgat	ggcaggtact	cagttgagaa	960	
aattcctgta	tatgattctg	cagaggatga	accggtgtca	aattttaatg	gacgaaccga	1020	
accctctttg	gatgttatag	ttaaagctga	gcaattatcg	gagtccactg	ctttccatgt	1080	
tcagcccctt	gattcagttc	agatgaaaga	tttagatggt	aagaagatta	aaactgatgt	1140	
agcagacgag	gatatgaact	tttattcaca	ggatagtga	catacccttt	ctcaaaagaa	1200	
tgcaatatca	catatccgaa	gtaatactgc	aggcagaaac	tattgccttg	gacctaggtc	1260	
catgtctacc	aaaagatcaa	gggcatataa	tggtggaagg	ttcaaaaatc	tcatagagaa	1320	
gaagatcgat	gttaagtttg	ctgctgccct	cctagcatcc	aaggaagcac	aagaggagat	1380	
ttttaattgt	gagaaaatga	aggatgatgc	tacatctgct	cttgattcct	tatatgatga	1440	
aatacggcct	gccattgaag	aacacgagag	ggatagccaa	gacagtgtat	ccacgactgt	1500	

agcagagaag tggatacagg cctgctgcct gaaattaaag gcggagtttg acctttactc 1560
atccattgtc aaaaatgttg cttgcaactgc gcaaagggca tctggccaag taaaacctac 1620
tgaagttgat aacgaaaacg aaattaagct cctgacaggt tgaaattctt atcacatttc 1680
ccccaccctt ccccatatat aatctgtaat ttacagtgtc acaaaatatg tgggcaactt 1740
tgaggaaact tcttttttga aattcataaa taaaatagag aatctaagac tcgatgaaat 1800

<210> 596

<211> 2341

<212> DNA

<213> Homo sapiens

<400> 596

ttaaaaagca aaaacaaaaa acaaaaccaa agtatacagg cacaaagagc atgatgaaag 60
catcagtagc tcacatttca atactaacat tgaatgtaaa tggcctaaat gctccactta 120
aaagatacaa aaccacagaa tggataagaa ctcaccaacc aactatctgc tgccttcagg 180
aaactcacct aacacgtaag gactcacata aacttaaagt aaaaggggtgg aaaaaggcaa 240
ttcatacaaa gggacaccaa aagcgagcag ggtaaccat tcttgtatca gacaaaacaa 300
atgttaaagc aacagcaatt aaaagagaca aagaggggaca gtatataatg gtaaaaggcc 360
ttgtccaaca tgaaaatatc acaatcctaa acatatatgc acttaacact ggagttccca 420
aattcataaa acgattacta atagacctaa gaaatgagat agcaacacaa taacagtggg 480
ggacttcaat attccactga cagcactaga caggtcatta agacagaaag tcaacaaaga 540
aacaatggat ttaaactaca ccttgggaaca aatggactta acagatatat atgaacattt 600
catccaacaa ctgcagaata tacattcaat tcaacagcac atggaacttt ctccaagaca 660
gaccatatga taggccataa aacgagcctc aataaattta agaaaattga aattatatca 720
agcactctct cagaccacag tggaataaaa ctggaaatca actccaaaag gaactttcaa 780
aaccatgcaa atacatggaa attaaataac ctgctcctga aagagcactg ggtcaaaaac 840
gaaatcaaga tggaatttaa aaagttcttc aaactgaatg acaataatga cacaacctat 900
caaaagctct gggattcagc aaaggcagtg ctaagaggaa agttcatagc cctgaacgcc 960

tacattgaaa cgtctgaaag agcacaaaca gacaatctaa ggtcacatct caaggaacta 1020
gagaaacaaa aacaaaccaa acccaaacc agcagaagaa aggaaataac caagatcaga 1080
gcagaactac atgaaattga aacaagcaaa caaacaaaaa atacaaaaga taaatggaac 1140
aaaaagctgt ttctttgaaa acataaatga aattgataga ccattagcaa gattaaccaa 1200
gaaaagaaga gagaaaatcc aaataacctc actaagaaat gaaacaggag atattacaac 1260
tgacaccact gaaatacaaa agatgatttc aggctactat gaacaccttt acgcacataa 1320
ctagaaaacc tagaggagat ggataaatc ctggaaaaat acaaccctcc tagcttaaat 1380
caggaggaat tggataccct gaacagacca ataacaagca gcaagattga aatggtaatt 1440
ttaaaattac caacaaaaaa aagtccagga ccagaaggat tcacagcaga attctaccag 1500
acattcaaag aagaattggt accaatcctt ttgacactat tccacaagat agagaaagaa 1560
ggaaccctcc ctaattcatt ctatgaagct cccatcatcc taatacaaaa accaggaaat 1620
gacataacca aaaaagaaaa ctgcagaccg atatccttga tgaacataga tgctaaaatc 1680
cttaacaaaa taccagctaa ctgaatctaa caacatatca aaaagataat ccaccatgat 1740
caagtgggtt tcacaccagg gatgcaggga tggtttaacg tatgcaagtc aataaatgtg 1800
atacaccaca taaacagaat taaaaacaaa aatcacatga tcatgtcaat agatgcagga 1860
aaaacattcg acaaaatcca gcatcgcttt atcattaaaa ccctcaggaa aaccggcata 1920
caaggaacat accttaacat aataaaagcc atctatgaca aacccatagc caacataata 1980
ctgaatgggg aaaagttaa agcattccct ctgagaacgg gaacaagact aggatgccta 2040
ctctcaccac ttgtcttcaa tatagtactg aaagtcctag tcaaagcaat cagacaagag 2100
aaagaaataa aggggtgtcca actcggtaaa gaggaagtca aactgtcact gtttgctgac 2160
gatatgatca ttaccttga aaaccctaac aactcctcca gaaagttcct agaactgata 2220
aaataattca gcaactttct caatacaaga ttaatgtata caaatcagta actcttctat 2280
acatcaacag caaccaagca gagaatcaaa tcaagaactc aacccttttt acagtagttg 2340
c 2341

<210> 597

<211> 1902

<212> DNA

<213> Homo sapiens

<400> 597

agtctttcat	tgcgcgccta	catgtgccta	cgacctcact	tctgcttctc	tacgactcac	60
caccctcaca	gctggagcaa	attcagaaac	atccttggtta	cctaggcggg	aaacacgagc	120
cagacccgtg	cctggagcca	gcccctggcc	gccgggtagc	catgcggagc	ctgccatcca	180
acggagagct	ggaccccgac	gtcctagaga	gcatggcatc	actgggctgc	ttcagggacc	240
gcgagaggct	gcatcgcgag	ctgcgcagtg	aggaggagaa	ccaagaaaag	atgatatatt	300
atctgctttt	ggatcggaag	gagcgggtatc	ccagctgtga	ggaccaggac	ctgcctcccc	360
ggaatgatgt	tgaccccccc	cggaagcgtg	tggattctcc	catgctgagc	cgtcacggga	420
agcggcgacc	agagcggaag	tccatggaag	tcctgagcat	caccgatgcc	gggggtggtg	480
gctcccctgt	accacccga	cgggccttgg	agatggccca	gcacagccag	agatcccgtta	540
gcgtcagtgg	agcctccacg	ggtctgtcct	ccagccctct	aagcagccca	aggagtccgg	600
tcttttcctt	ttcaccggag	ccgggggctg	gagatgaggc	tcgaggcggg	ggctccccga	660
cttccaaaac	gcagacgctg	ccttctcggg	gccccagggg	tgggggcgcc	ggggagcagc	720
ccccgcccc	cagtgcccgc	tccacacccc	tgcccggccc	cccaggctcc	ccgcgctcct	780
ctggcgggac	ccccttgcac	tcgcctctgc	acacgccccg	ggccagtccc	accgggaccc	840
cggggacaac	accaccccc	agccccggcg	gtggcgctcg	gggagccgcc	tggaggagtc	900
gtctcaactc	catccgcaac	agcttctctg	gctcccctcg	ctttcaccgg	cgcaagatgc	960
aggctccctac	cgctgaggag	atgtccagct	tgacgccaga	gtcctccccg	gagctggcaa	1020
aacgtctctg	gttcgggaac	ttcatctcct	tggacaaaga	agaacaaata	ttctctgtgc	1080
taaaggacaa	acctctcagc	agcatcaaag	cagacatcgt	ccatgccttt	ctgtcgatcc	1140
ccagcctgag	tcacagtgtg	ctgtcacaga	ccagcttcag	ggccgagtac	aaggccagtg	1200
gcggccccctc	cgtcttccaa	aagcccgtcc	gcttccaggt	ggacatcagc	tcctctgagg	1260
gtccagagcc	ctccccgcga	cgggacggca	gcggagggtg	tggcatctac	tccgtcacct	1320
tcactctcat	ctcgggtccc	agccgtcggt	tcaagcgagt	ggtggagacc	atccaggcac	1380
agctcctgag	cactcatgac	cagccctccg	tgcattgccct	ggcagacgag	aagaacgggg	1440
cccagaccgc	gcctgtgtgt	gccccacccc	gaagcctgca	gccccaccc	ggccgcccag	1500
accagagct	gagcagctct	ccccgccgag	gcccccccaa	ggacaagaag	ctcctggcca	1560

ccaacggggac ccctctgccc tgaccccacg gggccgggga gggaggggac cccctccac 1620
cccccttccg tgccccccaa ctgtgaatct gtaaataagg cccaaggaac atgtcgggag 1680
gggggtggac acaaaaaccg gccttgccct gcagggatgg ggctccacag gccgtgcca 1740
actgggggtg gttctagggg aacagggggc gggggagctg tttctatfff atttattgat 1800
taatttatta ttttatttat tgatcaatcc ctccctccct ggtcctcccc ccacgacctt 1860
ctgtacggat ttgctctccg gaaggaattc tggtttcgcg tg 1902

<210> 598

<211> 2124

<212> DNA

<213> Homo sapiens

<400> 598

gggccccaga gccggggcca agccagcagg atcccaggag gactgggagt ggggcctggt 60
ggggactgga ggcttctggg aggtcggagg gagcttaagg gacccaagc atgttgcaga 120
cagaggctgt acggacccat tctcactgc cccaccccta cgccctccac atcttcacag 180
tgtgcagcct gggctggcct ctccggcagg gacgcccagg cttctcgggg gcaggcctct 240
gtggctgtag tactccacca cctgcttcgg gacctcgcc agcacgact tggccagcgc 300
cgcaggggat gcctggagga tgggacaagg cagttacctc tgggaccttc gagatggaga 360
tcatccgtcc ctgcaactgg attatggccc aggctcctc ctccagagcc gagggtgac 420
taccacccc caccagaggc tcacctgggt gccgggcaag acttgctgag gatgtcggcc 480
acatgaggct gcacgtgggt ctttccagcc cccaagcac ggagatgaaa agtgctgaca 540
cgggaggcga ggccacctcc atgggtccagg cccacccac acttccccgg caaagcctga 600
gcgtgtctgt gtgatgtgac tctactgaga gttcatgtg tctgtaatat gcatgtttca 660
ctgcgtagaa tgtcacgtgt ccgtgtcttc atgcatgtct gtggtgtctt gctgtgtaga 720
acttcacatc tatgtggcat gcacgtcttg ctgtagggcc tcatgtgtga catgtgtgtc 780
tcgcctggta gaacctcacg tgtgtgctgt gcgtctcacc gggtagaacc tcacgtgtgt 840
gctgtgtgtg tctcggcggg tagaacctca cgtgtgtgtc gtgcgtgtct cgccgggtcg 900

cagaggttgg cagcaacggg ggaagccgcg tggtagatcc caggagcccc ttgtgctgtt 960
ctctgctttt gtgtagattc gacaagtttc aaaacggtgg aggggtgtttc aggtgctcaa 1020
agtcctggct tcagatactg ctcttgactg gggggaacag cccaggatcc cccagacaca 1080
agaagggacc tgccacatcc actggcgtga gcctggcctg ggaaggtctt gggcagtgc 1140
gtgaacaggg accccaagc cggccttgac ggagcccctc caggacactc acgttcttga 1200
gctcccggaa gggcacgaac tgtacgatgt cccggagcgc gggctcacc cgtggggagc 1260
gcaggacgcc gtcgtcgccg tccaggacct gcatgtcggg gaagtcggcg ttgcccacgc 1320
ccacgatgat gatggacatg ggcaggcgtg aggcacgcac aatggcctcc cgtgtgtcgg 1380
ccatgtcggg caccacgccg tccgtcagga tcagcaggat gtagtattgc tgggggcaca 1440
ggaaaggcat cagcaacacc acacctgcca tggcccacat gcgccctgca acccacgggc 1500
ccccagacag cccagagtgc ctccgtgcgt cagagcttcc tagaaccgcc ttcagagtgt 1560
gatgcctaca tcacaaacat cacgaacaac agtgggtcag gagccccctc cgtggcgggc 1620
actctgggcc tcctgtgccc aactcaggaa atctccacga gtctcacgga gggctgtgga 1680
gggggtgcta cgaagtccac attttactga tgagtcaca gtgcctggat gggaggtctg 1740
aggccagagg agaaatctgc gatcccagga gccagacctg cagcccacac accctgctcc 1800
agtctctcca ggggtgcccgc tgtgtgcca caagactgag tgttggccgg acgcggtggg 1860
tcacgcctgt aatctcagca ctttgggagg ccgaggcggg cggatcacct gaggtcagga 1920
gttcgagacc agcctggcca aaatggtgaa acccatctc tactagaaat acaaaaacta 1980
gctgggcgtg gtggtgggcg cctgtaatcc cagctattcg ggaggctgag gcatgagaat 2040
cgcttgaact tgggaggcag aggggtgcagt gagctgagat tgcgccattg cacttcagcc 2100
tggcgataga gtgagactgt ctcc 2124

<210> 599

<211> 2561

<212> DNA

<213> Homo sapiens

<400> 599

acttctgcag tgggtccttc atatgacatt cgctcagtc tccagacttc agagggggccg 60
agttttatgt gccttgcagc ctggctcaca tcctccagca cctgtgactg ggcaaagcct 120
gtggggctgc tgacctccac agtggccgac actgggccct ggggagtgcg ctgtcccgag 180
ctgtgagagg ccccaccagc aacctcgctc tcgcctgaag ggatgtacag ctcccgggtg 240
gccaacgcc taaagcgaat gccagcagcc ggggcctccg ctccaccttc ctcatctggg 300
ctgccaggcg ctgggctgcg ttgcctgctc aggtctctcc gaaccaccga ctccacagcc 360
ttctccatct cactggcctc atctttgctc agctcctcca ggtctaaccg atcggcatcc 420
acagtittgt agacgttgac ttcagcaacc agggtcacgg aactgccacc agcaccttg 480
accttcttga catccacgga aacgtcccc gggccaccct gcccctctct ggtgaggggcg 540
gacagctcct ccctcatgcg ctcggaagg gtttctcca gctgcccgat gacctcacc 600
agctgctgcc ggggctcctt ggaggagatg cccttcattg aggtgtggaa ttcgtggggt 660
attttaattt cttttcaat gactgtgggt tcggcatgaa attcaccgt tctagcttgt 720
tctttccagt gagtggaacc caggtecccc tccagagagg gcgctgggac atccaagggc 780
ttcacaacct tctcgccac tgcaccgtcc ttctgtgtcc tccttcgagt cccctgcacg 840
atttcacct gccaagagta cctgatgggt gattcctcct cgatgtggat ctgcccgtac 900
accgagccgt catctctgtc gtgcccccg ggggtgttcat ctggagtgga cacaaaataa 960
ctctgtctgc cctctgaatc acctgcctct gtcacttctt ccacgaagct ctttctgtc 1020
cacgtaagt acttttgtgt ctggaaaaga atcagcagat gcttctgtct ctggagactg 1080
agtgaactgc ttcaggatac tggtaacgat gttttctgtc acggtttctg tcatggaatc 1140
gccttgcaga gaaccagtgg catcactggg gccaacctg aaccgtagct ctcttgcttc 1200
tgcttctcta ccggtccac caccagcatc cttcacaggc gtctgcaaac ctttcgggga 1260
cacctctgt cttctgtcct gggatacttc tagactaatc ggcacctctc tctctgcac 1320
gctcttctcc ttcggtagat ctttctcctt agccttctcc ttcattctgt ggctttctct 1380
ctgtctcgt tccttatcta actttgtcaa ttcttcccat cttaggtttc tctcctcgga 1440
agccttctct ttagaatcga acattttctc ttctggcttt gttcggatgg tttctggtct 1500
gtttctttct tgctccctcg tggttttcac ttctgttttc tttccagaa tgacggctct 1560
ctcatttgac cgtgtgcttt ccgaagcacc tgctgccacc ttgtctcggc gatcccggta 1620
cgactcgcgg gcaattgtgg aatcttcacc tatgtaaacg gggacctccc ttgtatctcc 1680
ggcttttgggt ctgtcaggga atgttttcac ttgagcctca gtatttctta aaaggccata 1740

ggttggagag aaagtctga cgttggtttg actgctgacg gcttttccgt atgagttttc 1800
 ctgctgggta gtggccgagg ggaatatccc gagcccaaga agcctcttct ggcacacct 1860
 ccaatagatg tgcccgtctg agatccacgg tgccctgaca ggtagaata cagtgccgag 1920
 ctgtgattga aacttgccaa aggtgctttc tgccttgaaa atagattcct ttcattttcc 1980
 ctctgtagta gtgagtcggt atagtgatag gatttgtttc tgaattctgt agaaattgaa 2040
 caaagcattc attaaaatga cagtcatcat tacccttttc catctacaag cattgttgca 2100
 ggccaaatcc cattccatca taataaatat aactgttac cacagaaagc tcattataaa 2160
 gataagtat atttggtgcc caaattatct tttggcagtt tacaaaatcc tgttacaata 2220
 aatgtagca ctacaaatac ttcagcctaa cacgtttctc cagttactga tattaaaata 2280
 ctactcatc ttaacattaa tcataaagca caatgcatat cccagagagg tcagagggtgc 2340
 tcgtttttgt ggctgaaatt tcacaatctt atattttgaa atcattaatt tctgcttttt 2400
 gaggtaagtt taatttactg tagcagagaa gagctctgta attacaaagt gtgtcattat 2460
 taaacaccaa atagcattat cctccactat ttaatatat cttctgtttc actgatttcc 2520
 atattgggcc aacaagtatt aaagaattta acttcttta g 2561

<210> 600

<211> 2070

<212> DNA

<213> Homo sapiens

<400> 600

tttcttttct ctttatcccc aacttccttc caggctgcaa ggtcacgtcc tgtccccacc 60
 tttcgccctt caccagct ccccaacgc caaagacaag gtaagaaag tgatatcgcg 120
 aaatagtttt ttaaagcatt ttattgcatt ttatgacttg gagtttatgt gaaacctcaa 180
 cggtattagc cgaacagcct gccgcacctt ccgggagttc cagagtgggc ctacaactcc 240
 cacagggtc cgcgagcgcc ggacggacag actacaattc ccgacaggca gcgcggctgg 300
 cggggcggtt cgcggcggtg cccacaggac ctgaggcgga gtgcgggctg cccgcgcgg 360
 cgccgcagg acccggcgg ctacccatgc cgaggcacac ggaatgcagt gctgaacacg 420

gaggcgcgca cgatggcggc ggaggtgctg agccgccgct gcgtgctcat gcggctactg 480
gacttctcct acgagcagta ccagaaggcc ctgcggcagt cggcggggcgc cgtggtcatac 540
atcctgcccga gggccatggc cgccgtgccc caggacgtcg tccggcaatt catggagatc 600
gagccggaga tgctggccat ggagaccgcc gtccccgtgt actttgccgt ggaggacgag 660
gccctgctgt ctatctacaa gcagaccagc gctgcctccg cctcccaggg ctccgcctct 720
gctgctgaag tactgctgcg cacggccact gccaacggct tccagatggg caccagcggg 780
gtacagagca aggccgtgag tgactggctg attgccagcg tggagggggcg gctgacgggg 840
ctgggcggag aggaccttc caccatcgct atcgtggccc actacgacgc ctttggagtg 900
gccccctggc tgctgctggg cgcggactcc aacgggagcg gcgtctctgt gctgctggag 960
ctggcacgcc tcttctcccg gctctacacc tacaagcgca cgcacgccgc ctacaacctc 1020
ctgttctttg cgtctggagg aggcaagttt aactaccagg gaaccaagcg ctggctggaa 1080
gacaacctgg accacacaga ctccagcctg cttcaggaca atgtggcctt cgtgctgtgc 1140
ctggacaccg tgggccgggg cagcagcctg cacctgcacg tgtccaagcc gcctcgggag 1200
ggcacctgc agcacgcctt cctgcgggag ctggagacgg tggccgcgca ccagttccct 1260
gaggtacggg tctccatggg gcacaagcgg atcaacctgg cggaggacgt gctggcctgg 1320
gagcacgagc gcttcgccat ccgccgactg cccgccttca cgctgtccca cctggagagc 1380
caccgtgacg gccagcgcag cagcatcatg gacgtgcggg cccgggtgga ttctaagacc 1440
ctgaccgta acacaggat cattgcagag gccctgactc gagtcatcta caacctgaca 1500
gagaagggga cacccccaga catgccggtg ttcacagagc agatgcagat ccagcaggag 1560
cagctggact cgggtgatgga ctggctcacc aaccagccgc gggccgcgca gctggtggac 1620
aaggacagca ccttctcag cacgctggag caccacctga gccgctacct gaaggacgtg 1680
aagcagcacc acgtcaaggc tgacaagcgg gaccagagt ttgtcttcta cgaccagctg 1740
aagcaagtga tgaatgcgta cagagtcaag ccggccgtct ttgacctgct cctggctgtt 1800
ggcattgctg cctacctcg catggcctac gtggctgtcc agcacttcag cctcctctac 1860
aagaccgtcc agaggctgct cgtgaaggcc aagacacagt gacacagcca ccccccagc 1920
cggagcccc gccgctccac agtccctggg gccgagcacg agtgagtgga cactgccccg 1980
ccgcgggcgg ccctgcaggg acagggggccc tctccctccc cggcggtggg tggaacactg 2040
aattacagag cttttttctg ttgctctccg 2070

<210> 601

<211> 2648

<212> DNA

<213> Homo sapiens

<400> 601

```

ggtgggcccc tctgcatctg cccgttgtgc agcaagctgt ttcccagctc ccacgtgctg    60
cagctgcacc tcagtgccca cttccgtgag cgagacagca cccgggcccc gctctcacc    120
gacggcgtgg caccacctg cccgctctgt gggaagacct tctcgtgcac atacacactg    180
aagaggcacg agcggacaca ctcgggtgag aagccctata cgtgtgtgca gtgtggcaaa    240
agttttcagt actcccacaa cctgagccgg cacaccgtag tgcacactcg agagaagccg    300
catgcctgcc ggtggtgtga gcgccgtttc acgcagtccg gggacctcta ccgccacgtc    360
cgcaagtttc actgtggcct cgtcaagtcc cttctggtgt gatgcatccc tgtgggtcct    420
gaggggtgggg tggaagggaa gggatgggcc ctcccaggtg ggacacagca tggggtgtga    480
agcctgacca ggtggaggtc cctgcttggg ccagatggct ccaccctcct ggcagagaga    540
atgctgcctc ttcctggaac ttggcctcag actcggtaac ttgggcagcc ttcctccac    600
cttgcctctc ctttccctc actctccaac tcattccggc cccaggtg tgccctgcct    660
aggctgtgac actatcttcc tctcccgctc cctccagcca agttctgagg ggtgtccaac    720
cagcacctgg ctctgcccc gtttctccgt gtgagatggc acatccatct cccggccccg    780
gactttcctg accacctctc tggcaggctt ggggaggtct tcatgagcct ggccccacgc    840
taggtgaatt attcacatgt cagaaaagtt gttggtgtgc gtcccaatgg ggcgctggga    900
gggaacagga cactcctggg gagcggcagc aggaaccct gccaggaagg cctggggcac    960
agtgagtgcc agcaggggcc atctgggcac agctggtgtc tcggggtggg gggggggggt   1020
gcagccccag cagggatcct aaggcagcag gagtagagcc agctagaagc tgagtggctg   1080
tggcatcatt gtcactcggg tgggacgtgg gtccatgaga gcgtgcaatt atgaccacac   1140
tgtaactttg agcagagaaa gtgggaattt ggaactggat tctctttaga gccaggaaga   1200
gcctcctgag gcggccagat gtctgctggt ggccgccag ccacatgctt gtctgcctga   1260
gtgcaggtct aggaagcctc tgggcatccc ccagggtggg gtctgggccg ctgagctgtg   1320

```

tgctgctgct gggccaccgt gggccttacc ttgacgggtca ctctgcctgc taggggggtct 1380
ccctggagct gtgggcattt ccgtgcactg actgagcaga ggcaagggct gccctgtccg 1440
ccaggggcag ggtttgcggg ccttcctttc cccacggcga ggcatgggtg aaagtggcca 1500
tggcggcagg gttaggggca ggtgaggagt gggagtcgca gcaccctagg ggcctccatc 1560
cgcagccttg ggagactgac gcccctcgaa catgaataga atgtggagac cacaaccccc 1620
acacatgtcg ttggttcagg tcgccctgct ttgcctgcct aatggagcac atcttgctgc 1680
cagaacctca ctggcctctg ggggtcggca ggtgcagagc cacctggacg cctggagacc 1740
acctgggatg tttcctctgt gactgggaat ggccctgaca acagagtcca gccaaagtcta 1800
cgttatcttc tcctctctg acaacactgg atgtcatatt tattagtcag cctgggtctgg 1860
agtgaagac cgtccctggc gcatctccca cgcgccctgg gctcctgggtg tgctgggtgc 1920
cagcctggga gccagcgt tctgggtgat gcccagggc tcagaggccc tggatggctt 1980
tggtctcgag acagctgggg gaggggccct gcttctgatt gtcctgggcc ccagccccca 2040
cctctgcaag ggatcgggtg gatgtgctcc ataatcgggt ggggtgtgtg tgtgtgtgtg 2100
tgtgtgtgtg tgtatgtatg catgcgtctg gcacatggca aggcccaagc caaccggca 2160
ccccgtagat gggcagctac actgccaccc aagcacggag atgtggccgc ggcactgggt 2220
ccccagtgg gtcccatggg ggaagaactt ccctttgctg ggggtgggcag cctgccctga 2280
gctatcaaca ctggatttgt tgtcttctgc acagctactg tgaagatagc gtaaggagaa 2340
gtggtcagtt ttcattttat aactgacaca gttgggacaa aatatatacg tgtacatata 2400
tttaagacac taattgtgtg ggagagttta gtagaggcct gtgcagacac aaggcaaaca 2460
gcgtcagcag cgtgggggtc tcctgggcca gctcggcacc tgtgggtgct ctgaccctgg 2520
gggtggggac agctccgtgc taaccccagc agacagttgt tgggtgcacag tgtctaggag 2580
gcgtgggaat ggggtgctgc ttcctctttt cacatcatgg cgacagtaat aaagcccacc 2640
tccagtgg 2648

<210> 602

<211> 1794

<212> DNA

<213> Homo sapiens

<400> 602

ctgttggcct	actggatact	ctcactcggt	cattccaacc	tacccttatt	cttcttcttc	60
aattccacac	ccatcatgga	ccgttttccg	atcctctttc	tcctcgccac	cctcatcacc	120
ctcgctccg	gtgcccgcca	cgatattctc	cggttaccct	ccgaagcatc	cacttttttc	180
aaagcacccg	gtggcgatca	aaacgatgag	ggcacgaggt	gggccgtttt	aattgccggt	240
tccaatggct	actggaatta	caggcaccag	tctgatgttt	gccatgcgta	tcaactactg	300
aggaaaagggtg	gtctcaaaga	agaaaatatt	gttgtattta	tgtatgatga	cattgctttc	360
aacgaagaga	acccgcgacc	tggagtcatt	attaacagtc	cacatggaaa	tgatgtttac	420
aagggagttcc	ctaaggatta	cattgggtgaa	gatgttaactg	ttggcaactt	ttttgctgct	480
atacttggaa	ataagtcagc	tcttactgggt	ggcagttggga	aggttgtgga	tagtgggtccc	540
aatgatcata	tatttatata	ttactctgat	catggcggtc	ctggagtgtc	agggatgcct	600
actaatccat	acgtgtatgc	atctgatctg	attgaagtct	tgaagaagaa	gcatgcttct	660
ggaagttata	aaagcctagt	attttatcta	gaggcatgtg	aatctgggag	tatctttgaa	720
ggctcttcttc	ctgaagggtc	gaatatctat	gcaacaacag	cttcaaagtc	agaagaaagc	780
agttgggggaa	catattgtcc	tggggagtat	cctagtcctc	cctctgaata	tgaaacctgc	840
ctgggtgacc	tgtacagtgt	tgcttggatg	gaagacagtg	acatacacia	tttgcaaaca	900
gaaactttac	atcaacaata	cgaattgggtc	aaacaaagga	ctatgaatgg	aaattcaatt	960
tatgggttccc	acgtgatgca	gtatgggtgac	atagggctta	gcgagaacaa	tctcgtctta	1020
tatttgggta	caaatcctgc	taatgataat	tttacttttg	tgcttaaaaa	ctcattgggtg	1080
ccaccttcaa	aagcagtcaa	ccaacgtgat	gcagatctca	tccatttttg	ggataagttc	1140
cgcaaagctc	ctgtgggttc	ttctaggaaa	gctgcagctg	agaaacaaat	tcttgaagca	1200
atgtctcaca	gaatgcatat	agatgacagc	atgaaacgta	ttggaaagct	cttctttggc	1260
attgaaaagg	gtccagaact	gcttagcagt	gttagacctg	ctgggcaacc	acttgttgat	1320
gactggggact	gccttaaaac	attgggttagg	acttttgaga	cacattgtgg	atccctgtct	1380
cagtatggga	tgaacatat	gaggtccttt	gcaaacttct	gcaacgctgg	aatacgaaaa	1440
gagcaaatgg	ctgaggcctc	agcacaagca	tgtgtcaata	tccttgctag	ttcctggagt	1500
tctatgcaca	ggggtttcag	tgcataattc	ctagaatgcg	ctccattgaa	gaccgagtat	1560
agtcgttgta	acattattct	ttacgagtgt	tatggactgt	actctctgct	catgatttct	1620

tataccaacc ctgtaaatac aaatgggacg ctgggggaaac ctctttacat tatagtttcc 1680
tgcaaaatag atgctgtaac aaagacattt tacttttact tggggagagg cagtgggaacc 1740
ataaggaccc ttggaacttc taattaatac gacagggcac aataccgtgt ttgt 1794

<210> 603

<211> 2329

<212> DNA

<213> Homo sapiens

<400> 603

gtctaggaat tttgaaaggg atctgcttat ataatgccac tcagtataat gtgtgtagcc 60
cagggaatga ccaacctcat gtgtcttaca acctgtctga gcctcctatg accacagttt 120
ttgaaataag attaagaact gaggactggg ggggactcat gaaagataca agtaaagtaa 180
taccagaaca gaagaaaaag gagctcccaa acaagtcacc ttaagatttg atgcctgtgc 240
agtcattaat agtaacaagc tagggatggg atgtggttct ctcagtcggg gtgaaaaaaa 300
aagctatata tggcagaaaa taagtacatt tgtcatgaat taggactata tggtattatt 360
gaatgtagtt attggctcta tgtcatttgg gccacctgga aaaaggatga aaaagaccct 420
gtttgcctac aaaaaggaaa aagtaattca tcttgcacct ccggtactg taaccatta 480
gaattaataa ttactaacc ccaggatccc cactggaaga caggagaaaa tgtaaaccta 540
ggaattgatg gaactgggct tgacccccga gtcaaccttt taatccaagg ggagatccac 600
aagcgtccc ccaaaccagt gttccagacc ttttaggatg aactaaatgt gccaatacca 660
gaactgccag ggaagacaaa agatttgttc ctgcagttag cagaaaatat agcccattcc 720
ctcaacatta cttcctgtta tgtatgcagg ggaactacta tgggagacca atggccttgg 780
gaggcccag aattagtgcc catggatcca gttcctgata taattccagt ccagaaggcc 840
cacactggta acttttgggt cttaaaaacc tcaattattg ggcaatactg cttagctaga 900
gaagggaaaag acttcaccat ccccgtagga agctcaattg cctagggcaa aagctgtata 960
acggcacaag aagaacagtc acctgggtggg gtctaaacca tattgagaag aaccatttta 1020
gtaagtttac taagttgcaa actgtttggg cccatccaga gtctcaccag gactggacgg 1080

ctccagctag actatactgg atatgtggac atagagccta tgccaagcta cctgatcaat 1140
gggcaggcag ttgtgtcatt ggcaccatta agccatcctt tttcctgctg ccataaaaa 1200
caggtgatga gtccttaggc ttccctgtct atgcttcctg agaaaacaga agcatagcca 1260
taggcaattg gaaagatgat gagtgggtccc gtgaaagaat catatagtac tatgggcctg 1320
ccaactgggc acaagatggt tcgtggggat accaaacccc catttacatg ctcaactgga 1380
ttatatgggt ccaagctgtc ttagaaataa tactaatga aactggcaga actttgactg 1440
ttagcccggc aagaaacca gataagaaat gctatttatc aaaatagatt ggccctagac 1500
tacttgctca gtggaaagag gggctctgtg aaaattcaac ctgaccaatt gctgtctgca 1560
tatagatgac caaggccaag tagtcgaaaa catcgtcaga gacatgaca agctagcaca 1620
tatgcctgtg caggtttggc atggatttga tcctgggtct gtatttgga aatggttccc 1680
agcattagga tttaaaactc ttataatagg agtaataaca gtattaggaa cctgcttggt 1740
gtccccctgc ttgctgcctt tgctccttca aataatgaga agctttgtca ctactttaat 1800
tcaccaaagt agttcagcac aagtgtatta catgaatcac tatcgggtctg tctcgcaaaa 1860
agacctagat agtgaggatg aaagtgaaaa ttcccactaa taagtgagat tctaaaaggg 1920
gggaataagg aaggagacca cctctcccat tgtctcctgt ttcattgagaa agcagaaagt 1980
taaaaaaaga agcagaagtg agatcaatgg ccagatgggt tagtgccaag aaccaggcct 2040
ggtagttaaa catcaactcc tgacctaac gcttgtgcta tccatagatt ccagatattg 2100
tatgaggaag acttgtgaaa ctttctgttc tgttctgcta gccccatca ctgatgcatg 2160
tagctctcag tcatgtagcc cccacttgca caatgtatca tgacccttc acgtggaccc 2220
ctcagagttg taagctctta aaaggacag gaatctttac tttggggagc tcggatcttg 2280
agacgcgagt ctaccaatgc tccagctga ttaaagcctc ttccttcat 2329

<210> 604

<211> 1936

<212> DNA

<213> Homo sapiens

<400> 604

acagttttca caaaggtctc ttgatatcaa aacttctttc cttgcatgct tctctgatcc 60
tgtggagatg aaaattgaca tccatagtca tattctacca aaagaatggc cagatctaaa 120
aaagaggttt ggctacggag gctgggtgca gctccaacac cacagcaagg gagaagcaaa 180
gttgttgaaa gatgggaaag tcttcagagt ggtgcgagag aattgctggg atccagaagt 240
tcgtattaga gaaatggacc aaaaaggagt aacagtgcaa gccctttcca cagttcctgt 300
catgttttagc tactgggcca aacctgagga cactttaaac ctgtgccagc ttttaaaaaa 360
cgaccttgcc agcacctgtg tgagctaccc caggagggtc gtgggtctgg ggacgttgcc 420
catgcaggcc cctgagctgg cggatcaagga gatggagcgc tgtgtgaaag agctgggctt 480
tcccggggtc caaattggca cccacgtcaa cgagtgggac ctgaacgcgc aggagctctt 540
tcctgtctat gcggcagccg aaaggctgaa gtgttccctg ttcgtgcatc cctgggacat 600
gcagatggat ggacgaatgg ccaaatactg gctcccttgg cttgtaggaa tgccagcaga 660
gaccaccata gccatttgct ccatgatcat ggggtggagta tttgagaagt ttcccaaact 720
gaaagtgtgt ttcgcacatg gtgggtggtc cttccccttc acagtgggaa gaatctccca 780
tggattcagc atgcgccag atctgtgtgc ccaggacaac cccatgaacc cgaagaaata 840
ccttggttcc ttttacacag atgctttggt tcatgatcct ctgtccctca agctgttaac 900
agatgtcata ggaaaggtaa gccagctctg ccacttggat ggcttatggg gagcagaatg 960
ctgcatcagc aaccattct ctctcctttg gcttctctcc aaaaaaggga tggaagaaag 1020
gtattagatg aaaggagaga gacagtgagg tttgggatta ggtttgctca cacaggggat 1080
tctctccagg gtctccctcc acacagagta cataacacta agaaactatt atatatgcca 1140
gagaaatccc agatcatcta catggctggg tattccccca gatcagctcc tcttccttag 1200
cgacatccct atatgcaccc aaaatgacac atggcaatgt agtaagcagg aaaggggcac 1260
aagtttcaaa gtcaaattga cctgggttaa aatcctggct ctacctttca ctagttgggt 1320
aaattgtgaa tacaactgtc ctcatccact acatggagaa aactggaaca ttgaaagtgt 1380
ggaaaatgca tagttgggaa attgcgctgg acaggagtc aggggaagat gatgaagggt 1440
cttgtgtatc atgccctgag atttcttctt ggaataatat ggcttttgat tctctcattt 1500
aattaaaaca ccagcatagt ggtactttta agcgcacaag aaaaagtctt tcctctgatg 1560
tagtctctc gccaatctct ctgttggtgg cacaccacc ctttaagtat tctttaaaaa 1620
tgctaactca gcaagttcaa gaatttctag ggaaaaggcc atagtgaaaa gtctaaaata 1680
ttttgtattt caattccatc ttattaacag atatctatag aagatttcca cattttccca 1740

agggaaaaat ctttgggggtt aaaagtatat agacatatatt aaaaatttgc aatatggtac 1800
ttgagtttag actctaaggt ttaaaaaaat catgtcgagc aaaaagaggc ccatcatttg 1860
aaagttgcaa gtagtggttt atctccagaa tggacacttt atctcatatt aatgctgact 1920
gtttctctgg cttgag 1936

<210> 605

<211> 2809

<212> DNA

<213> Homo sapiens

<400> 605

attgtgactt gtattttgtg atgagtctct agaatgatta aatgactatt tttttatgaa 60
aaattttttg ttaataaaat atctgagggt attttgagta tgtggaagga atgcctgaat 120
agaagctgat ctatcttaac atacctcaag aactccagtt ttaatatggt gagtgaggag 180
ttgactggga aaaggagaga tccaattctt gttctagtcc ttggcacata cactctctgg 240
gttttgagaa aaggatggtc ctacaacgat tctaagttgt tttctcattg gtcctacaac 300
aattctaagt tgttttctca aaggcaaaag catgatttca aatgacatc acttgtcaga 360
ttttctggtg tatggaaaga ttttaataatc ctgcctcttt tgaagcctga aacttacaat 420
ttaaagcctg aaatctacca taaggaactt ggtaaattgt gtcagatacc atgaaaatgc 480
atcttttcat agttaaccac agattgttta tgtaaaggca aattggtggt caggttcaag 540
gtaaaatgga ttattgggtt gattagtagc caaaaactaa atgcatgttc aggtcaaaat 600
gaatttgttt gttttagttg gtgccatttt cttttatta ttcagaacta cagagtgtgc 660
atttatttaa taggaatgaa agctcatgct tgaggatttg aatagggtgg atgtatatat 720
tttataaact caagttgcaa aatatgtaaa gtcactactt tttaaataga atataaatgt 780
taaaacagac aaatctatgt tatatatatt ttaatacatg tatcagactt gttagttgaa 840
tgcagattac tttgctttat ggaatttcat aacttttaat aataaagcag ttgttattgg 900
attttttctg tagacttgaa tactaaatgg gatagatacc agacctcttt ttggtttatg 960
acgtaaaagt atttgtacag tagtttctct tcacaaaaga ctgaatttta aaggattata 1020

gaaacaggaa catgtccatt tccaaaatga gtgcaacaga atgaagatag tcacttaaac 1080
catctattta acacatcacc tttatgtaat atgtagctag ttttagtggt ttaataagtc 1140
ccaactaaag actgagtgtt ttcagtgaag atggaaatgg agacccgggc acttgcttag 1200
agttatcgtg agtccgatgt tcctgaactt caagttgtac aattaagggc atactctaag 1260
aacttctgga tgctttctgg agtatacaga cagatcaact aatgacttaa atgagtgact 1320
cttgaagctg caagaagagg aaagaaataa ccacaagaag gggctatctc agcatctgtt 1380
attcctgaca ggaggaatta aatatgctct gctggtaatt ctaagctttt ctgcagggga 1440
tctgcttgcc ccaggagcac cttagtcctc attgaggcag ccattctgcc ataaaaacga 1500
tcatgtctca agctgttcct gccgtcctac acaactatgt tagtagatgg ttagataaat 1560
atatgaacca tcttttgtac tttgatgatg cccctttcct ttattataat ccttaatttc 1620
tactttccat agtaggattt gacttttctc cattagttta agctaccctg gataagtgac 1680
tctgtttatg tcctccctat atttcttact cattttcaca ctaacataac acgtaacaaa 1740
attaaacata agctaaattg aagaagcaag tgagacagct aagagttttg tgtacttgga 1800
caacaaagct caaagccact gtggttatct gtcctgttgg gagccccttt caaccatttt 1860
tttagttgcc tgtaagattt atttttaatg tttgcctgca taatgcaaaa tacataagtg 1920
ggaatcccta cgccctttac agttaagtgg attatggaaa taataaggaa agtttatcaa 1980
ctaagctagg aaatatcttc tcatgtctgt atctggcctt cagggactta atgtgggtga 2040
atatatgtca ttagacaaga tcctaataa gatggctgta tcctgcagat agccaattca 2100
acattaaaat tttatgtttc catacctcaa tgaaaacata tttcttttat cctgttataa 2160
tttaatgaca ttcccatcca acttaatcaa gcaatgatac tcagtagtcc tctccttgca 2220
tttttcaagt cctgttgagt gtaactttaa aatgtctctg agatttctac cttctctcca 2280
gtctccttac cattagggcc tttcactacc tggccttggg gtcctgggc tgctcttcag 2340
ctgtccacaa acctgtttc ataagcagta gcaatgcaag cttccactgc cgtctgctaa 2400
tgttcttccc tcctagaatg ttcatgatct gcgtttctac ctgaaaggtc tagttcaaag 2460
gtagctgaaa ggttatcatc cttgtccttt cttctctccc taccagtcac ctatcctgaa 2520
ctttttaaca gtagggacag tggtgcaatt gtgtttgtgt ccccagcacg tagcacacag 2580
tacctagtat acagtacctg tagcacatag gcatttaata agtgtgtatt gaattaactt 2640
ggttatgctt gtatttttat cctagctttc tcaaagaaac ttaggtgcta gctattttga 2700
aacatatatc cagaaccacc acctgagtaa aatgtataac aggaccctgc tctttctatc 2760

ccagagagtt tgagaaaact actttttaaat aaatcattaa tcattcttc

2809

<210> 606

<211> 2432

<212> DNA

<213> Homo sapiens

<400> 606

gcggccccct gaatcccgag cctgcctcgc ccaagctggt aggacagacg gacagacaga 60
ttcctctagc ctagcgtcc gccgctgctg ccttacacgg ccccgctcg ggagaactgg 120
gatcgcccca agagcaccgc gaggggtcat ctcaggctgg ctgcatgcct cagctgaaga 180
tcccagctcc tgtcaatgcc acctctctgc ttgactgtct ccttcagat tcgagcaggt 240
atgagctggg aagaatgaag gcagggcagc cccgtgtgcc agctctgcac agctggatag 300
ctgaggaaag atgtggagga gaagccgggg atttgtgtga agtctaaggg tgttgtttgc 360
cctttgggtt ccagaagatg catgccagga ccctgggtgg cactgccagg aagcaacaga 420
gaggagataa aactcacagc agacggactt gccittaaca caactccctt gaattaaaac 480
acgcttttca agaaaacaaa ttatcagttc gatcagcaaa cagcagagaa gtttctctca 540
taatggcaaa gaagggccgg gttgctgacc agtgaaagag cttcagaaaa ggagagggga 600
gatgagatgg ccagaaggag caagagcacc gtacatccct ggacaacctc attctaattg 660
gtcaggggct gggacgtgca ttttggagtg caggagaagt ggcaactcac aaatgctaga 720
ttttcttcta gagatgacca agctgtagtt cttaaagcag tggcactagg gcagaaaact 780
ctcacacttt gatgtgcaca cacagcccct ggggatcttg ttgacatgta gattctgatt 840
ccgtaagtgc ggctgagatt ctgcatttcc aacaaactcc tagatgaggt ccattttgct 900
gggccatgaa acacacttag aataagtagc aaggtatagg aggatactga ctttgctcag 960
tgatgcttgg gcttccgtcc aaactaaaat aaaacaaaag cagacataaa tggcccaatt 1020
caacagcctg agaagtttgg tgataatgac ccaagccctg gcctgggtgac caagtggctg 1080
ctcagagagc tctatctcca aactcctgac ctcaggatgat ccacctgcct cggcctccca 1140
aagtgtgctg attacagaca tgagccacca cgcccggcct gctccacttc taaggcttct 1200

tgtgacaatg taagagaaag gagatgacag agctttgcaa cgggaggagg gctatgtgtt 1260
ctggtgacca attcactgtc ttgtgtcggg acaggaagaa gcccttcata cgggcagcag 1320
gctgggagcc agggaggagg aaagatcacg atccactccc tggtacatgg cccttctgca 1380
ccccgcagtc tccttcagg tgccacaacg agaaggcaca catccttggc acagcacttg 1440
aggcttttca ccactggctg cactcacccc tccagactca ctgccttgca ccaacccttt 1500
tccgcccacc ccactctatg ctgtccacag cctccacccc agccacctga ttctgcaggc 1560
caatgtcaca ttcttcaggt ccaggttcta ttctggcatt tcttgtcatt attttgcgtga 1620
gaatgtgtct ctcttgactt tgaacttatt gagagcagga atcatgactc agccatatat 1680
cccagcactt ggcccagggc ctgtcgtttc cagggtagggt ggtctaggct gattgaagga 1740
atggcattta gtctttaaaa tgaaagcatg ttgcctagct tggttatitt tgaactctat 1800
aatcaaggac tacgtttacc tgaatagcct ctgcagaaca ccaattccgt aaggtgcttc 1860
acacacacac accaattcta tcatttaata catthttggaa aggctacata ctactacagc 1920
ctcttttaca gattagcaat gtccatgagc gcactaaagg ttgagacatt ctgcagtga 1980
gaagcctatt tcattttgtt taaccaagta tttctcaa atttttgatc atatgtggca 2040
gaaaatgctg tgtctggcat tcttcatttc cctcttcctc ctttaacatg gaaccctga 2100
tgtcttttagc ttggcacatc gccaccaga ataaaaacta ctttcccag ctcttctgc 2160
agctaggggc agccctggga taaattctgg acaatgaaat acaggcagaa gtaaatcata 2220
tacgatttcc atgaaggac cttaaacaga agtgtgcct tctcttccc acacattcct 2280
cctcctgtct gaaatgtaga tgcaactgct ggcatttgag cagccatctt gggccatgtg 2340
gtagcttctt atggatgatc taggactaat tcaagggtct agatttacct ccaaactttg 2400
tttatctaca aaaaataaaa ctctatcttc tt 2432

<210> 607

<211> 1771

<212> DNA

<213> Homo sapiens

<400> 607

ccacgtggcc gccaaaggggt gacatgggca ctcgatgggg tctgggcaga aagccgtgct 60
ccccacacct ccgtgcctct ggtcttctgg tgggtgcatt gatgggagta gatgcgcttg 120
tgtccttatg tcatggcgcg gctctggaga agccgctgcg gtccccagca gagagtagtg 180
acacttacag gagttctgga gggctgtgcg gggctgcagc ttggagggca gggcggggct 240
gcagcttgga gggcagggcg gggctgcagc ttggagggca gggcttgtct tctgcaggag 300
ggcgctcaag gaggggatgg ggagggttga ggactgctgg gattggcatc tgagcatcag 360
gtggggactg agcagcagtg gatctgagcc tggctacttc aggtccctga gccagacact 420
gtccccaggt acagcagggt cccggggagt ccaggaggcg gcggagtgcg gcactgtctg 480
gagagtccac tgtattgcag agaggttgga gaaaatcaag tcttgacagt ggcgatggct 540
caagattccc tgaggtcttc agcgctgact aaggagtctg aaatgatgat tcatgtttta 600
cctttggggc tgagccaagt gcatctcttt gagcaatcgt ctttaatttc ttgtcgtcac 660
caattatcat aaccaattat catcgtaaag gatggtaatt cctttaatta taccacactt 720
aaaaacatga ttctgttcca caaacgaaag gagcacatca gagatgcctt cagttctgtg 780
tgcttgaact ttgaattcca tgaattatag ttgcactgag gggagaatcc tgtttacatc 840
ctcctgggtc cttctccctt tcctgtcccc atgtttctct gaggcctggc aatgctctct 900
ggatacttgg tgagtagccc aggaggactc aggagtgaga ggcccctgcc tcctgcgctg 960
ggagaaggct gtgggtgggc cgtgaacccg gccttgagtg gcaggacagt gagtgtctgc 1020
tggtgtgttc ctacagcaga cggactggac tgagccctgg ctcatggggc tggccacctt 1080
ccacgcgctc tgcgtgctcc tcacctgctt gtcctcccga agctacagac tacagatcgg 1140
gcactttctg tgtctagtca tcttagtcta ctgtgctgaa tacatcaatg aggcggctgc 1200
gatgaactgg agattatttt cgaaatacca gtatttcgac tccaggggga tgttcatttc 1260
tatagtatth tcagccccac tgctgggtgaa tgccatgatc attgtggtta tgtgggtatg 1320
gaagactttg aatgtgatga ctgacctgaa gaatgcacaa gagagaagaa aggaaaagaa 1380
aaggagaagg aaagaagact gaggggcagc agctgcttgg agtttgcgtc cttcccgtcc 1440
acccagtgca gctcccagtg ctgcagtgtg cgtggcgtgg gcacccctcc agctgactca 1500
tggtttgaaa aaccgttggt ttattttaaat atccacagtg gtagggcaca cactgaagtt 1560
ggcttttcag ccagcactga atgtatccat caggacatgc gtcttcaggt gcctgatctt 1620
tgtagtcagg ctgtgggaac ggtctctgca gagcttcata actgggaatt tgatttgaag 1680
aagtccatgt catatgtgta actagtacta attataaata taaaatacac aatataaaat 1740

atgaaactca ataataaaca gtgccacctg t

1771

<210> 608

<211> 2271

<212> DNA

<213> Homo sapiens

<400> 608

aaggatcatgc ctacggccgc ggcgcctctg cttccctccc accccggttt cggccgtcgc 60
ctgcttctcc cggtcgtcct gggctggccc cgccctcct cccttgtctc ccctccttcc 120
ccgctctcac ccgtccccg agccgccggg accccttccc ctgcgcagct gcgggagagg 180
cccgttcccg cgagtgcgcc cgcggcgcag cctcggaccc agggcctgct tgacctcta 240
cctctggccc gccgcccctg tcctctgttc ccagcaagtt cttctgccc ttttaatccc 300
ccgaagcctc cgtttccaca tgttcttgac aagatagact tttctgagtc ttttggggac 360
taaatgaaac agtggacctc tggggccagc ccagcccgtc taggtgttgt gatggccact 420
cctgcgtcgg ctccgcgtgt actgggggcc gagggggaag aaggggccgt gtgggtgact 480
gaggctgtgt cctcggcttt cagggctgaa gaagatgcag agcagcctga agctgggtgga 540
ctgtatcatc gaggtccacg atgcccggat cccactttca ggccgcaacc ctctgtttca 600
ggaaaccctt gggcttaagc ctcacttgct ggtcctcaac aagatggact tggcggatct 660
tacagagcag cagaaaatta tgcaacactt agaaggagaa ggcctaaaaa atgtcatttt 720
taccaactgt gtaaaggatg aaaatgtcaa gcagatcatc ccgatgggtca ctgaactgat 780
tgggagaagc caccgctacc accgaaaaga gaacctggag tactgtatca tggtcattgg 840
ggcccccaac gtgggcaagt cctccctcat caactccctc cggaggcagc acctcaggaa 900
agggaaaagcc accaggggtgg gtggcgagcc tgggatcacc agagctgtga tgtccaaaat 960
tcagggtggag tcctcagggg ccaggccag cactctgtca agagctctgc aggcgtctgg 1020
cacctgccga cctctgtgtg gcttccggct gctgaccacg cttccctccc ctccactcag 1080
tgtccccgct gagcaccccc ggggcaggca ctgcccctgc cttattcca cagtcgtcat 1140
agtctttgcg ccaaaccctt ggggaaggca cgctgttttc cccatttcca gatgaggagg 1200

ccactgtcca gggccatgca gtggtcagga cagacctgag tgtggcgccc cccgccccac 1260
cctccactcc ctctcttggt ttctccttgg gagcagaaga caagctgttg ggacctgacg 1320
cttttattta ttctccaaat taagtgggaa ttagatcctc tggggaaccc tggagcttgg 1380
tgagagtgac gctgccatgg ggttgggtcc ctgaggcctt cctcggagca ttgggtgcca 1440
ggggctgccc aggtttcctg agtggcccac ctgggtggga ggctgccacc gcggcctgat 1500
catgccctct gtgccacac aggtctctga gcggccccctg atgttcctgt tggacctcc 1560
tggcgtgctg gctcctcgga ttgaaagtgt ggagacaggc ctgaagctgg ccctgtgtgg 1620
aacggtgctg gaccacctgg tcggggagga gaccatggct gactacctgc tgtacacct 1680
caacaaacac cagcgctttg ggtacgtgca gcactacggc ctgggcagtg cctgtgacaa 1740
cgtagagcgc gtgctgaaga gtgtggctgt gaagctgggg aagacgcaga aggtgaaggt 1800
gctcacgggc acgggtaacg tgaacgttat tcagcctaac tctcctgcgg cagcccgtga 1860
cttcctgcag actttccgcc gtgggctgct gggttccgtg atgctggacc tcgacgtcct 1920
gcggggccac cccccggtg agactttgcc ctgaacttgt ccgggtaggg agggccggag 1980
gcatgtggcc tcccagacct cctgacctgg gtggttgagg ctcaagacag ctcaccgggt 2040
ccagaagctc catgctggtc actagggtgc tgtgctctct ggcgccccac agcctggcca 2100
gctccaggga cccagttgc agggcccaag caggtgggag tggacaccag gcttcccagt 2160
ggacgtccct gagcagctcc gcatgcttgg ttctcccga gcttcctgct caggcctctt 2220
gagaaatgga tgctgtctca gaaggagtta aagctataac ctgtaacctt t 2271

<210> 609

<211> 2490

<212> DNA

<213> Homo sapiens

<400> 609

tttcctggtt tataaaggtg cttcaggact ccttggctcc tggccaatat cttagtgtt 60
cctgaagggg aaagagccct ccaaaccatt cagtgggcca tcccagaccg aggtttctga 120
cccagacatt gaaacaggag gagttccctt atccccctt gcagggcatt tgacaggggc 180

atggctcgct tctcagtacc ctgctgctca aacccttaga gggggcatgc agatggacag 240
gtcgtgggga gcgttttttg gctccgaccc cacagcagct tgtagaattg ggtgtttaca 300
gtccccgaag cccagtgagg cacgtgttac agtgggtctcc ttcagttttg ccatctgcag 360
gcagcttggt ttaatcagct caattagacc ctctgcctta tcacaaagac agatggcttt 420
ctgtatccca ggttcttgcc ctagtgtact cggaaaatca gatttcgcat ggacttggag 480
aaggagtgca aggttttatt gagtggagga ggtggccctc ggatggggag ccagaagggg 540
gatggagtgg gaaggtggtc tccccctaga gttgggctgc ccagcagcca gactctcctc 600
cgaccgcccc cgactgattt ccacatcgcc ccgtgtcga aagcccgcca gcatctgctg 660
gtgtctgtca gtgtgctctt ctgcttctct gctcctctcg acgtccagcc acttgtgtgt 720
gtgcccacta gggctcttggg ttttttatgg gcacaggatg ggggtcatgg caggccagag 780
tagtcttggg aaatgcaaca tttggacatg aaaacaggag tgcctgttct cactaaggctc 840
catgggcaca agcccatggg tggagccctc gccagggacc ccacccttct ctaccagca 900
ctcccctgcc ccccttccat gtcaacatga aagctgacat tggctcctgt gccccacctc 960
tgggcctggt ttggtgacct ctgcaccaga gctgctaggg aggcccatc ccacatgttg 1020
ttgattgaac agcccttccc caggggaacc aacgtcctcc tgtccccaaa ccatggagg 1080
agtgggtgggt tcctgggcct ctagtaactc gactgaatat tttccagggt acctaaccaa 1140
actcctgcaa aaccacacca cctatgcctg tgatggggac tatttgaatc tacagtgcc 1200
tcggcattct acgataagt tccaatcgcc attttatggg caagattacc aaatgtgtag 1260
ttcccagaag cctgcctccc agagggaaga cagcttaacc tgtgtggcag ccaccacctt 1320
ccagaagggt ctggacgaat gccagaacca gcgggcctgc cacctcctgg tcaatagccg 1380
tgtttttgga cctgaccttt gtccaggaag cagtaaatac ctctgggtct cttttaaatg 1440
ccaacctaat gaattaaaaa acaaaaccgt gtgtgaagac caggagctga aactgcactg 1500
ccatgaatcc aagttcctca acatctactc tgcgacctac ggcaggagga ccaggaag 1560
ggacatctgc tcctccaagg cagagcggct ccccccttc gattgcttgt ctactcagc 1620
tttgcaagtc ctatcccgaa ggtgctatgg gaagcagaga tgcaaaatca tcgtcaacaa 1680
tcaccatttt ggaagcccct gtttgccagg cgtgaaaaaa tacctcactg tgacctacgc 1740
atgtgttccc aagaacatac tcacagcgat tgatccagcc attgctaate taaaaccttc 1800
tttgaagcag aaagatgggt aatatgggtat aaacttcgac ccaagcggat cgaaggttct 1860
gaggaaagat ggaattcttg ttagcaactc tctggcagcc tttgcttaca ttagagccca 1920

cccagagaga gctgccctgc tgttcgtgtc cagtgtctgc atcggcctgg ccctcacact 1980
 gtgcgccctg gtcattcagag agtcctgtgc caaggacttc cgcgacttgc agctggggag 2040
 ggagcagctg gtgccaggaa gtgacaaggt cgaggaggac agcgaggatg aagaagagga 2100
 ggaggacccc tctgagtctg atttcccagg ggaactgtcg gggttctgta ggacttcata 2160
 tcctatatac agttccatag aagctgcaga gctcgcagaa aggattgagc gcaggaggca 2220
 aatcattcag gaaatatgga tgaacagtgg ttggacacc tcgctcccaa gaaacatggg 2280
 ccagttctac tgaaaaccac atgcatcttg atgcgatcgc actttctgaa gaaggaaggg 2340
 tcccaaatgc ccctccagtt ctgggtcacc tgtaccttct atgaaggaga attcgtcatg 2400
 tcattcaaca ctcgtgaggc caggaagcta ttaaagggat gtttcaagct gtttctagca 2460
 cattcaaaa taaatgagga gggaagagtc 2490

<210> 610

<211> 3624

<212> DNA

<213> Homo sapiens

<400> 610

tattgatgct taacttgggg cctgtgtact tctttagtct tggaggccca tgaatagtct 60
 ttatcgacct tgggaaattg tacagaaaat tgtgggtgag tcattcttgg gagggaaacc 120
 cagctcctca caaaggctcc tctctcacc tgccaaggat aaggaccatt gctctaaatt 180
 acatattatt ctgaatgtaa tgagagcatt gatactagtt gaactatttc atctttaga 240
 acaatttaca gttgtctagc tcatgtgctg ccctgtactg cgacatatc acttctgttg 300
 gaggcctgca ggtgaccatg gcttgcctct tgatgaccat gctcatgtga aagcttggtg 360
 cccaaaagaa aaataaaaag catctctaaa gaatgagaat tgtcaaaaag gactacacag 420
 tgtctgtctg tttctttttt gcacagggca cggtgggtcca ggcgtcacct gacttgcct 480
 gacctatagg cagccccag tgcaaaactgc cccacaggac agagccatca ggccttcacc 540
 atttaggctg catcaagcca gttccagtct gttccaaggg gcccgctgcc gtagctaatt 600
 gattagaaaa atccagataa agccaaagat gtcctttgtc tgcaagtcgc atacaattga 660

gacttaagtt tcgcatagcg ttactgattt catagtttga tgacccatcg ctaggaagtg 720
ttttcaaagc tgtgtttcag acttgccttg cttctgcatt ttttggctgt gcattgaagg 780
gggtgacccc tgagagacgt tccttcaggg gagaggagac ccctgtggtc ttattaaagt 840
cctcatccca cccaaaggta caggtagggg gcagatgcgg aggcagctcc ccattattct 900
gggggggtca ttaggggagc tgccttttgt gaccctataa tccaatagt agcaatctta 960
ggtgcctctt ctgggtagga ggcctgagca gagagcccca gctttacttt cctgcttctg 1020
ggcctggagg aaaatggagg cccaaccctg cagcctccac agctcgtggc aaacgctcca 1080
gagcccccgt gagtgtgac ttcccttaag ccaggggcga ggggcagagc tacagactgg 1140
tgacatcgtc tgtgtgagat agtgggtggg acagtgggag tcccatgtcc ctggggctca 1200
gaccacttgg catccagtcc acgtgtgcag cacagccagt agtcagaggt gtggatgcgt 1260
gtgtggcagg tgcccctgcg attctgtccc tgaaagagct gcaactgctt tgcttttcag 1320
atcagcctgg agatgatgga gaaaatcccc atactgagga gcctccgcgc ccgagagcag 1380
caggctggga aggatgtcac cctccagggt gagcaccagc accttccgga accaggctgc 1440
cagcagacag tgcccctgag tggttggcagg aggccccgg acacaccgg accagaaacc 1500
aattccatgg aggcagcccc tggtcctcca ccaggggagg gtgccccgt tgcagccgat 1560
gtttacgttg ggaacctccc cggggacgcc cgtgtgagt acctgaagag agccctgcgg 1620
gaactcggct ccgtgcccc tggcctcacc tggcagggcc cgcggcgcag agccttcctc 1680
cattaccgg actctgccgc agcccagcag gccgtctcct gcttgcaggg cctgcgcctg 1740
ggcaccgaca ccctgagggt ggcgctggcc aggcagcaga gggacaagt acctcgtgga 1800
cagccacgga gctcactgca gactcgccat ccccgctccc tgccgctccg gttccgatgg 1860
cactcgagag gcctgcgtgg caagacgtgt cggagccacc gcctgagctg ctcggtctc 1920
aattcttctc agaagtcacc gctcagtga cgcccaggcc ctctgtgag tggggaagcc 1980
gccctgcggt tcatctcaca gcgcgcagag actgcagcct cccaatcgtg caggctcggg 2040
ccttgagtcg gtttctgttt ctctggaggg acagagcaga ggggccaggg actgagttag 2100
tggctaagca ggggagggtg atgtgaagg gatctcgagt ttgccagggg tgggctgaac 2160
aggagaagat gaacaaagga tccggctctc aaaaggccct ggcagggact ggatgctggg 2220
tacagaagcg cgcccttggg cttcaggctc ctgagctggc agcacggcag ggagagctcc 2280
atccatgtcg caggagccca ggaagctcag cccctgggta aaaagtgtc actgcagctc 2340
agatcagtcc tcaggtcaca ttctggggag ccagcctccc ctcttcccct cccagcccc 2400

gctcctccct ctgtggacac actccgggcc ctcagccagc tggctgcatg aggagcagct 2460
ttgtgctgtg ggagagaccg gctctgggag aatgggtttc atcccagcct acgtcacatt 2520
tgcccagtgc cttatgtttt ctgggttttt tttcctccag ttctgtttct aaaaaccagc 2580
ttgagtttgg ctgaactgtc ctttctcaac agaagcgctt ttgcaattga tcccgggcaa 2640
caagtcaaaa taagctttta agtggagatt ttgttttttt caaatgtata tgcttttgaa 2700
attttgattt tttagccaga gggttttacc aagtgttctt tgaagcacat tacgatgcct 2760
cgagagggcg gcccgtgcac gcgctttcaa gaaaatgttc tcgggacact cgggtcttctc 2820
tttgaaagga cttttctca ttggttttgc cgtgaaaatc ctgtggagac ttcgcaaaga 2880
aaacgcagcc ttacatttgc tcattaaaga cagatttcct tccaagtcg ccatgaataa 2940
aatgagagag tagaaacgtc tggaagcgcc acacctggcc ctgggccctc ggccctctgt 3000
gtccttggcc ttgccccgc cgcacggct ggtcacgttt gtcattgggc attcagctca 3060
gcgtcagagg ctgactcagt cccagttca gagtagtcac ctggttacac tgaactctc 3120
accttctttt ctctcttttt ttaaaaaata cttctttttc tgaaagattc ttattttttt 3180
tttttgttta ctttttctt gtggatttgc tgccgttaga atagcaactc caggagaaga 3240
gcaagtgagt cagccccct tctccactcc ctgccccacc ggcaagtgggc acagccctgc 3300
agacaggagc aaggacttcg gggaatagac cactggggc cgggagaggg agaagctgga 3360
ttctgacccc accactggca ctctgtgtc cagccatgcc tgacgcccac cccaccctca 3420
gacggcggga ttaaaccagg cagtacaggg ttactcgggg aagccagact gctgggattt 3480
cctgtcgctt tagccagaat aatccaggta tatggatata cagataatct gaaagagttt 3540
ctcattttta tatttgtgga acatcgtgta agaaaaactg aagagcaagt gcctgaaata 3600
aatccccca catgtatcag cctg 3624

<210> 611

<211> 1769

<212> DNA

<213> Homo sapiens

<400> 611

aaatttcctg cagtctgggc atgagagcag gactggagtt ggtgagaacc actcggtcac 60
ccctgcctca ttcatttttt tccccaggcc ccaccactgg aagaactttg aggggtgagg 120
tgagactcc agaatgggac actcccgtgt gactttaaac ttacaggaca gacggaggcc 180
ttcctctggg ttgctgagtc acaaggggcc accgttcaag gcagaagagc ctcccagaag 240
taaagagggt gcgtttggtg ggagcatctc ttgtttaagc caaattctag caccacccca 300
gggctgctcc caggggtgtg tgcaggaagc caaggatccc cgaccgtcag cccagctcct 360
tcctacaaga accacatgcc tttctcgggg gtccccacctc ctacatcggt ttaggaatag 420
actgcatgtg cacggggcag gccacgggtg agtgcctggg tagcacaggg ggtgctgagg 480
ggtgagggat gcgggagagg aggtgagtgg ggagaaaggc accaggacga cttgggtga 540
caattcctga gtcctgact actccattct ctgataaaac ctcaggcatt tatccgacac 600
ctcctacgtg ccccgggctg atcacccac acacatgatc tcaatcctaa gctgtgagct 660
tatcttcac tgagagttac tgagacttag agcccatcac cccagggtta caccagagt 720
agctcacggg gagccaggat gggagcctga tgtgtctgag ccaaagcccg ggcctctggc 780
tgctgtgggg tggggagggg tcctggggtc caggctctgc agaaccaggc aaaggggagg 840
catagctgca gaggagccta gtcctatata agggagactg gcagcgaggc aaccaggagc 900
accccggggg gaggttctcc ctgcagcccc gacatgcccc ttggtagccc ctttccttg 960
agcctccctc agcctctgag aagagctgtg ctgaccagg gttaggaagt gggggtggca 1020
gtcacatcgc caggctgggg tcgggggtgc ttacaccact gtcaggatgc ccgtggccgt 1080
gaacgtcagg cctttcagtt ggacgatggg atccaccagg ctctgctggc tcgggctggt 1140
ccggaattgg gtgaagggtga agtggatctt caggaggttt gagtactgca tcagtgcaa 1200
ctgcaaaggc cagtggggag ggcccagggc tcagtgcctg ttactattgt tttatttta 1260
atTTTTgtg gagacagggt ctctcaaact cctggcctca agtgatcctc ctgcctcagc 1320
ctccaagtag ctggaactac aggcgcacgt cacatgcctg gctttgtttt tttgtttgt 1380
tttgttttg gtagagacgg ggtctcacta tgttgcccag gctggtctcg aactcttggc 1440
ctcaagcaat actcccaccc cagcactttg agaggccaag gtgggagggt tgtttgagcc 1500
aggagtggga gaccaggttg ggcaatatgg caagacccca tctctacaat aaaaattttt 1560
aaaaattagc caggcatggt ggcattgcacc tgttgtccca tctactcagg aggctgagga 1620
aagaggatca cttgagcctg ggagatcggg gctgcagtga gctgtgattg cacccccaca 1680
ctgcagcctg gatgacagaa caagaccctg tttaaaaaac aaaacagtgg ggttttttgc 1740

acatacatag gcactagtta tgggaaaat

1769

<210> 612

<211> 2347

<212> DNA

<213> Homo sapiens

<400> 612

ttgtacattt ttgtttatgt ctttcactct tcctttaatc ttttatcatt cctgggggag 60
gattcttggg ataatggggg tggaaaaaag atatcctctc cggggactcg aaccggtgat 120
gaggggtggc ccggaaggga gtggtgtccg cccagctgtt tcgattgtat ttgaagcgct 180
ttgaagaaat gggaacgcgg cgctcaaagg cagaagaagg agggggcgat atgcgacccc 240
tccagtctct ctccggcatt agggatttgc gagcttgcag ccccggtac tccaccctgt 300
ctgccgagga taacgtttcc ttaggtcaac caccgctggg acttggaac acgaccctcc 360
gcccacaatg ccctttattc ctttccccgt cgtgggtggg tgggggattg tttaaagata 420
ttccaaccgg atttggggcc aagccttttc tgcaaaggga aaaacgggtg agtaggagga 480
gcgtgaggcg ttgaaggagc gcccaaaccg gctgcgggga gatcttcatg cctaaaacgt 540
ggtcagtcaa ggtgagtaga caggacacgt caattttttg acgcaattag aatttttagc 600
ctccaggaaa cgtaatttag agccatggta ttggttcgtt tcagctggct ccttaaaatc 660
tattttaagt gtctaattta tgaccagaaa ggaaaaaaaa aatggcagtg ctcaccggtt 720
aaacgtctgt ctcccgagac gagaactggg ggaagcgta cttaaccttt cattctgctt 780
aagtcggagc taaggtccat ttgctgtttt tgtactttaa agatagtcc ctgaattatt 840
ctggactttt ttgaaggatc atagctaaat ccacaccccc atcccaacag accacacaac 900
actcacagct gggaggcagg aaaatgttaa aagggtgaga gggggtggga ggggtgacag 960
cagaatgctg gaaggctgga gaggactcta ggaattacag ccactttttc taaagaagag 1020
agctggattc ttcggataac tggcaaatgg tccttcccc ttgatagtca gaagatgaaa 1080
atattctaata acaataaat gaatcaagga ggacagggtg atttgtgttt gggcaaatct 1140
ccttgtgcaa atcttgaaac gtccaattct tgctattcta aactcgaaga cagaatgacc 1200

accaggtggc aatagattac aatttctgag aagaaacaac aggcctccca agggagcagt 1260
 tcttcaagga agaatgcagg ctcatactca tccctgccaa atttcacaaa gcagggcctt 1320
 ttcaaagtgt cagaagtgtc ctggaagtga cctgaaacac ctagggtagt gcgtctcttt 1380
 ggtgaaagac taggggggtgc atggcatctg tttttttccc acctagctgt gtctcaaagt 1440
 tagtgaacct gtgaatatta ggcaagaaac tgattcactg caaaactgga aaccaaggaa 1500
 atacagttct ggattgtaat tctgatgggg agcttttaaag gtatatctgt gtcttctgat 1560
 ctcaacaaaa accaaggcga aatcagtcct tccccaaaag ggtgggatgc aaaaaggagg 1620
 atttcccacc tgagatgctt tagtgaaata cagaattcat gggagactga ggagagtaat 1680
 attttattca tttcttttag tataaaagct cttggactac ttaaaataac agatatttag 1740
 tccccatttt caaacatagg tatctgggac tgttgtttgt gaaaagggtc tggaaagttc 1800
 tgacttagtt gtggagaatc taataactta aacttctatt ccaggccagg tttcttcccc 1860
 taatcctgac cagttactca ggggaggaaa ctggaacttt aacagaaggg gtgcatgatt 1920
 gattgccgtt cccattaggc cccaccttca acattggggg tcacatttca gcacgagatt 1980
 agagaggaca aacatccaaa ctatatcaaa tattgtgaca atagctgacg aatacactct 2040
 cctataccaa gaagggaac ggggactgtg tgcggtgggt cacgcctgta atccctgcac 2100
 tttaggaggc cgaggcaggc agatctcttg aggccaggag ttcgagacta gcctgggcaa 2160
 catggagaaa cccaatctct attaaacata caaaaattag ccagttatgg tgctgcacga 2220
 cctggaatcc cagctacttg ggagtctgag gcacgagaat cgtgtgaagt cgggaggcag 2280
 aggttgcagg gagccaagat cgtgccactg cactccagcc tgagcaacag agtgagactc 2340
 ttgcctc 2347

<210> 613

<211> 2366

<212> DNA

<213> Homo sapiens

<400> 613

acctcctggc tcccgccgc gctcgccgca cgacgcgca ctgcgccag catgagggtc 60

gcggctctga tcagtgggtg gaaggacagc tgctataata tgatgcagtg cattgctgct 120
gggcatcaga tcgttgcttt agcaaatacta agaccagctg aaaaccaagt ggggtctgat 180
gaactggata gctacatgta tcagacagtg gggcaccatg ccattgactt gtatgcagaa 240
gcaatggctc ttccctctta tcgccgaacc ataagaggaa ggagcttgga tacaagacaa 300
gtgtacacca aatgtgaagg tgatgagggt gaagatctct atgagctttt gaaacttggt 360
aagggcatca ctagaatgac cttgcttgct gaatatgatg ctctgaatct ccaagatttt 420
cacatgcatt tgaaagtggg cagccaggcg attgtttaca ggactccaaa tgaactgtgc 480
actcacagca agtttgataa acacacattt cctcctttta tcagtgagat tgcaaaatgt 540
gaagtatgag tttccagttt tactgattcc cctcaaccct tttcctgttt aaaaacttag 600
acataactaat tggatgctga tctgtccctg tttttcattc tgcttgctgg tagttgacgg 660
cttagtttag tacttaccta ggcaagattt ggcaaaccct caaaaatgaa ctttccatgt 720
attcaactta aaggagattc atcccaagga atgtaatgtg aacactaatt aacattaatg 780
actgctaate actttgcttt ttatactcct ttaggagcac tgctattatc caatgtagtt 840
aagtaaaatg cttgtatatg aatcaacaat gttgcatcct tttagcagct attgctcaca 900
atcaagcttt gcataaatta aagttgacta aaattgattt taatatgctg ctcttcttca 960
atagtaaact aaaatatcta gttaaataatc ctgcatatta aaaatacatt gcctgatttt 1020
ttttgtagtc atcctgtggg agatgaaaag caatattgca aatacatttt ctcacagttc 1080
atgacacttt ctcttagatt tcttcaaaat tgaacacaac tcttcatagt cctatcagca 1140
ctttgattct gttgtaagca ttaattttgt tagatcaatg aaaagcaatc agcctatgtt 1200
taatttttct gaatttggtc atttacttcc tagaggatct tacagattct ttagatgata 1260
tattctattt atataaagtt ggttcatagg attgtacatt caacattcat taagaaaggt 1320
tgtttattat gtttagtgaa ttacaggacc attataaaag ctttctgttt atttacatgc 1380
attcaatgta cctgtgacta gaactgcctt gccttaggag gaaactaagc aaaaccata 1440
aattaataat ttaaggagc aatactcaag tagcatttca gttaaaaagt aaagcctcag 1500
agtcagtact agccacttta gcattgcctt actttttgac ttttattggc tgaaaataac 1560
ttgttaaact ggagcttttg taataaaatg aaatctacat accatctaaa gcccttccc 1620
ctccttttga tttatgagta ggttgacata ttactggaga atttgtaaca ctttcacagt 1680
tctgcacttt gatttcagag aaggtgctaa tctctctgga attttgagag tgacaaaatg 1740
agttgtatac tgtttttcca gggaatttgg gttcctttat tagaggcctt agttttatta 1800

tggtagctgt attaatgtgg atttatccaa tatgtgatat ggtggtatga ttagatatac 1860
 attaatggag gatttttttt tcattgtaca tattctactt ggtttgatca tattataatt 1920
 ctcacagcta atgtccatgt ttctacagag gttcagcaat tcaggatatt attttcaaat 1980
 taccaaaatg agataattta actccctttt acttttgcac tatttttagt ggaaaaaaat 2040
 taaatggtag tattataaga agcttttatgc tgtgtatgct agtcttattg tatatatgta 2100
 ctgaaagtac ctttgacact gtacttaatt ggatttaatt tcaaagaatt gtaacaggaa 2160
 ttatgtgaga gaatagaaaa tatatggaac ttaattaagt gctgtccata tgtaaaggta 2220
 agattcatga ctattgtttg atgtaactta tttattttac atcctgatac tattgtataa 2280
 tagcacaaaa tgcattgtcta tgaggaaaaa cttgcttttt ctattttact ttgagttttt 2340
 atgtgtaata aaattatgct taaaat 2366

<210> 614

<211> 4437

<212> DNA

<213> Homo sapiens

<400> 614

tatatatata tatattcaac acactttggg aggatcactt gagcccagga gtttgagatc 60
 agcctgggca acacagggat accccatctc tgaaaaagaa agagaaaaaa acaaagttat 120
 tccaaaaatg aggacatcct cctggcatct gagtcctcac cccatgtgcc acggtggccg 180
 cttctgccgt cctccacctc caggcgctcc tagagctgtc cctgggccag tggcttccaa 240
 aggggggctgt agttgggccc tgctagcctg gaccgccgcc ctggccgctc ttggtgaagg 300
 gccccttgct cagcccgccct tcctcctcct ggggtttccgt gtgacagatg ccccgctcctg 360
 tggggtggtg tctcacattt gctttgctgt taaaaaatgg ggtacaccat ccccaggcct 420
 ccaatcaccg gccctgcccc tgagtgggga tggttttcag cagctccttg ctctgggggc 480
 caagctcctt ttccaggagg cttttggaga actgggggtca gagctgtggg gaggtacagc 540
 cctcctgtgc aggctgcctc ccagctctcc acctggcagt cttgacccca ccctggcgcc 600
 tctgctcact ggcacagggtg gatctgggggt tcgaggctctc ctcccacttc accctgactt 660

tcttgtatgt atggggtcat cgcctcctct ctgaagccca cgggtcctct cccagcccca 720
ggctgcaccc agtgcagaac ctttgcctcc tggccagagg gacccttctg caggctgatt 780
ccagcagtgc ccgatgggtg gaccacacc agaccaagcc ttcgcctccc agaggcctcc 840
tggccctcct gtcattggcct gtgagagcca caccctagg ccccgctctcc tagtctgcag 900
gccgcaggac cagctgcca cggccccagg gggcaggggc ttagatgag ggtctcagag 960
gtggtgggag cccccccc acccacagtt cctgggcatt tcttagagc tttaaatgg 1020
cacctggaga ccaccaggcg cggcgatcag atcgggtggt gtggtgcctc ctgggactga 1080
ccacttcttg ctctccgacc aggcaggggc gagggttccc ggaccctcag 1140
ggggcctgtg tctctgggca ccgcagctcc gcccactcc ttcctccaga acattcccca 1200
ctcgggctag agaattgcgt ctgctccagg aatgcatcct agcgtgtgta cgatcgcgcc 1260
tgggtgtcct gttctcatga gcaagcgggt ttaaccagca gcataattta tactcataga 1320
caggactggg ggaagggtg ttcctgaggc tgggtgcag tgccttgga agcaccctg 1380
aaacagtga ccttgtatit ttagtgtccc ctgcaacat cctctgactt agagcaagaa 1440
tttccgtgc tgctacccc gagatgggct tcaccagatg ttaataacgt gcttattttc 1500
tctaagtgt attttggcac cagcgttagt tgcaatttat attctgcagc atttgatgt 1560
gggaaaagaa cccaccctaa tggccccaa ttggcagagc tcggctgtta agcagcagac 1620
catatgtgc ctgctggagg agcgtggtca gcacttgtcc ccgtgcctgc gtgcgtgtgc 1680
ctgcgtgcac gtgtgcctgc gggtagctgt gccctgtgtg tgcacatgtg cctgcatgag 1740
tgtgcctgcg tgcacgtgtg cctgtgtgta catgtgcctg cgtgtacctg tgccctgtgt 1800
gtgcacgtgt gccttcgtgt acctgtgccc tgttgtgtga tgcgtgtgtg agtcacgtct 1860
tccgtgtgtg tatgtgaggg agagactgtg ggggttgaag gaggggtggag gggaaagggt 1920
atgtatccct ttgttcttta aaaggagag ccccaacctc tctggctgcc cctcctgcc 1980
tgtgtccca gtcaccca cacctagctg ctatttatc tcctgacccc cttcccgcc 2040
ctgcagcccc gtgtcccgca gcctccgccc cgcctcctgc tccacgtcac caggcaacac 2100
tcggctccac caggcttccg aagggtggccc agagcaggca cttgagcctg atgaccaga 2160
gcaaagctgc ctttctgggc cttgagtact ctttctgtc atggaaggct tttcttgttt 2220
tcaacggccc gtccagcca ggggggctgg gtgagggccg cttcctctg cagcagaggg 2280
ggcgggctct atccttgcca tctgtgccc ccagaggccc tgccaggaca tgggcctgag 2340
cggtttcttc tccaagaggc cctcctggga cctgtctgtg cacaggcgcg gaagacactt 2400

gctgcttcga cccaggacgg cagccaggac gggctgagct cctcttgccg tgcaaacaca 2460
caagggttgc ctgccagctc agcagcgccc tccctcaacc acaccctggg tccggaccca 2520
gagccacagg ccgttggacc caggggaccg gggctgggct caggcgtggg cctggagggc 2580
ttgtggaggg gccagacctg gagccgtagg gctccaacag ctgagggctg ggctcctgcc 2640
ggccaatgaa gctccagacc agtgctccgg ccttggcggg gccagcagtg ctcctgcagg 2700
gatggagggt gctggaggcc tggatgcggg gaccttgatc ccccagcagg cagcgctgtg 2760
gcagcctccc acctcctctt cccctgttat ctgctccttt taggatctga aaattacagg 2820
gccttttttt ttttttgaga gggagtcttg ctttgtcccc caggctggag tgcagtggca 2880
cgatctcggc tcaactacta caacctccac ctcacagggt caagcgattc tcccacatca 2940
gcctcctgag tggctgggat tacaggcacc tgccatcatg accggctaatt ttttgtattt 3000
ttgcagagat ggggttgccac catgttggtc aggctggcct tgaactcctg acctcaagtg 3060
attctcacgc ctgtaatccc agcacttttag gaggctgagg caggcggatc atgaggtcag 3120
gagatcgaga ccgtcctggc taacacagtg aaaccccgtc tctactaaaa atacaaaaaa 3180
gtagtcgggt gtggtggcgg gcgcctgtgg tcccagccac tcaggaggct gaggcaggag 3240
aatggcatga acctgggagg cggagcttgc agtgagctga gatcgcgcca ctgcattcca 3300
gcctgggcga cagagtgaga ctccgtctca aaaaaaaaaa aaaacaaaag aagtttctag 3360
atctactggg catgatgaac acaaacccca cagacactga ggaaccaggt ggtggcagtg 3420
actcgggctc ctctgctctc taaagctcct ttgagaaaca tgggaggggc cgggcgtggt 3480
ggttcacgcc tgtcatcca gcactttggg aggctggggc aggaggatcg cttgagccca 3540
ggagttcgag accagcctgg gcaacatagt gaggctgtat cgctacataa aataaaaaaa 3600
aagttggctg ggcattgtac atgtgcctgt ggtcccagct actcaggagg ctgaggcagg 3660
aggattgctt gagcccagga gttggatgtt gcagtgagcc aagatcgcac cattgccctc 3720
cactctgggc cacggagcaa taccctgtct cagaaaacaa acaacaaaaa gcagaaacgc 3780
tgaaggtgtc ggtttacggg aaaaccgcct gtcagaacac ttggctactc ctaccccaga 3840
tcagtggacc tgggaatgag ggttgggtccc gggaggcttt tctccaagct gttgccacca 3900
gacccgccaat gggaaccctg gccacagaag cctcccgggg agtgagccag agcctggacc 3960
gctgtgctga tgtgtctggg gtggagggag ggtggggagt gtgcaagggt gtgtgtgtgc 4020
ccggggggtg ttcattgggca agcatgtgcg tgcctgtgtg tgtgcgtgcc cctcccctgc 4080
agccgtcggg ggtatctccc tccagcccct tcgccacctt ctgagcattg tctgtccacg 4140

tgagactgcc cagagacagc agagctccac gtggttttaa ggggagacct ttccctagac 4200
ctgggggtct cgccgtatct catgaccagg tgctaaatga cccgacatgc atcacctgcc 4260
tttcgatgac caacctcct gtccccgtcc cgctgacctg cccccgtggc gtctcacggc 4320
gatgcctgct cctgacattg gtgttactg tagcaaaacta cattctggat gggaattttc 4380
atgtacatgt gtggcatgtg gaaaatttcg aataaaatgg acttgattta gaaagcc 4437

<210> 615

<211> 4494

<212> DNA

<213> Homo sapiens

<400> 615

aatatacatg aatttgcttc tgcctttgcc acccctgaga cagcaagacc aacaaccct 60
tctcttcctc ttcagcctac tcagtgtgaa gatgataaaa tgaaacagtt ggtgatgttt 120
cagagaaccc aactcaaact gacttgaaca agagaaatca gtgtttactg cagagaacac 180
agaagccagc aagcagcagg gaaggaggc gaaccaatgc agcagcccac cgggaccgag 240
gaggacacac gcagagcaag tcacaggaag cgcagctgaa aacaaatgga cgcttatccc 300
aaatgcacag gacacttacc aagaactgat ggtccgtcaa agtaaagctc aacagctttg 360
gctggcagga cagtcaaact tttggacgac agaaagtaac agtgggaaat gggacaacat 420
ctgccagcaa cgcgagaggc caagaccatg gctgctacag gaggggtcag cgtcacagta 480
cacgcatggc ggcggttgca catgcatgcc tggggaatgt gagtgttcag acatgccagg 540
agtccagcct caccaggaaa caggcacacg gggacagagg cgcaaact gaaaactctc 600
gctgaatcca ctcggctgag cggtgggtcac gagagcacgg ccctgcgctc cccacaaaac 660
tgcacctggg ccccagggcg agacaggcgt ggaaggtgca ggggtgtgtg tgggggcagg 720
ggctcctggc tcagagccgt atccaggaac ccccttcag gctggagccc tgccctgagc 780
cccctgtgga gagactgtgg agagccccct gtggagaggg tgactgtggg agagcagcat 840
caggcctagt ctcggctgtg aagtaccccc cacctccacg caggatcccg gggattctgt 900
caaggtgggg gccgcctgct cagcccaggc tccctgaacg tgtggctagc tgagtttgcg 960

gaagaaacca ggagagtgcc aacaccaggc ttgcaagcaa gaggctccct gactgcctga 1020
tcctggagcg caccatcc tccctgtgtt ccctgggcct cagctgttcc ccagtgcct 1080
tgagacacc ctgccccacc ctggctccac aggagccctg cccatcaccg cctcagctct 1140
gagtctcccc tggggacaca accttctcc ttgtgcagag gcgcaggatg ctgcccctaa 1200
ggcccatctt cctctgcagc atgttttgat gtcagctcat tcacaggaaa gaaacaatca 1260
catctcagtgc ccagaaatgg ggaccaatag gagaggtcac tgggaataaa gccacacgc 1320
acccaggggt ccatgggctc ccagaaatg caggtggcct ccgccagagc caacaagcct 1380
aagttgctga tcagccctc cctgcttccc tgtgtggaag aggaaacaga ggccagact 1440
agtagggctc tgccgtggtg gccggctgcg tccccagacc tctggtcca gggctggctg 1500
ggagtgtccc tccctgtgct cacttctgc tctcctggga aatggctcag ggatggggcg 1560
tgtggggaca gatgctggca tagctcaca aatgcttga caaggacac tccatggcag 1620
gtccctgcag gagagcaaag tcacaacatt cagagattcc ctgcactctg aggccgcag 1680
agcctggccg accaagcgag gctgggagga tgttcctgc ttgtcagggc agccctctga 1740
tcaggcggc cgagtgaggc tgggaggatg gtgcccgtg gtcagggcag ctgagcgtgg 1800
ctgggaggat ggtgcctgtt ggtcaggga gccctctggt cagggtggcc aagcgaggca 1860
gggaggaggg taccaccgg tcagggcagc cgaacaaagc tggaaagatg gtgcctgctg 1920
gtcaggcggc ctgaatgagg ctgggaggat ggtgtctgct ggtcaggga gctcaggagg 1980
tgctgccag gaggtgctgt ccaggcagag ctagggctg gtgtgggtgt gccatgctcc 2040
tgagaagttt ctgggttgtg gctttaatgt tctcctgcag tgagaacgct gacacttggc 2100
caaagggtcc tcacctctcc cctagtacac ttctgagatg ccaggaaggt tctgaacatc 2160
agattgattc ctgggactcc cctccagggt ggccttactg ggtcaggag ccctgcccc 2220
actaggatgg ctctgcagtg gcctgaggac agtgagcact gactggtcac tggtgcaaag 2280
ttgcccactg tgatggtttt gaccgttgat gggaaccaag tgaaagccct gcagctatct 2340
ctaggcattt cagagggtgc ttccctgcat gtactctgct gcagaccatc ctccctgggc 2400
caggagcccg ctacacagta ggagattctt tttcttctt tttgagcact tttattctct 2460
ttttcttaat ctctgctcct cctttgaact gagaaatgtg caaatctttt ttgttagttt 2520
tgaggttgct tcttatgcat atttcatctg gaactttccc ctttgggggt gatctgttct 2580
atcagcctgc ccgtgctag agaggccgag gtggtccggc cagccgtgcg ctgctgctgg 2640
tgtctctgtg ggcatgacct ggtgagatat cattctgcat ctgggggtcc atcctatcag 2700

ccctgtgttc tagattcccc agtgactgac atttagccag tctcctctgt cactctccag 2760
tgacatgtac aactgttgg cacgaactgc agatgtcacg ttctgtggct gagagcctca 2820
gtgtgcatct gtagtaggag gatgtcagtg aggactgtcc tgtcgctgct gagctggcac 2880
cgactgtgcc tgggtctacac tccaggtctg ccaaacgacc cagcaaggtc cttcacaact 2940
cttctgatcc aggatcacac atcacttgtg ctttgatgcc tgcttctgaa caattttacc 3000
tcctgagatg tccatttttg ggagtgtgag ccctcctctc ctggtgacag ctggctgagg 3060
ccgtccagcc tcaggacaca cagggaacgg ctgcataagg agatctgggg cagggggccc 3120
accaggatgt tctgccctgt ggggggcaac accggctgtg gtctgccggc ggcattccagg 3180
gacagtctgt ctaggtgagg ctgaggccgc cccactcgc tccctcacc ccatgctgac 3240
agcagtgagc tgaccacaga ctgggggagc cccacaggga gactggcctc cccagcacat 3300
gccccgcagt gccagacgcg gtcattcacag aggcaggtac acggcaccac ggacgtgcca 3360
cgtaccgcc atcgggacca aggaccactg agaaaccatg aaggccatgc agcgactgtg 3420
gtggcaggac cgtcaggagg ccataggtgc cacggctccc ctctgggtgtg tcacctgccc 3480
acctgtagct ggggtggccc ctccagtgcg ctcccagag cagaacacc cccaggcaac 3540
acgtctgatg aaggccaaca gcgtcagtcc tctggtgttt ggtgacatca aagctgtgcc 3600
gaaaggcctt ccctcactgc taacacttga agggcttctg tccggtgtgg accctctgat 3660
ggcgaatgtg gtctgtctta tgcttaaaga tccacctcca ttaactgcac tcttgggggtt 3720
tcttcctctg aaaaggaatg aacacgggaa cccctcaaa ggcattttta aatgaagcgt 3780
ggaaggcatc aaagatgtgc tcttcttcag gactcaggct tctccatcat tctctgttcc 3840
ttggaagcgt gagggctaag gagctgctga cttctctctc ttggccccac ttcaagaaag 3900
gcttgcttcc cacacacctc tccacgtcc cagtgcggga ctgacactct gcaccgggag 3960
gccaagggcc accatcgtct tgctgggaga aggtgtgacg tttcttggtc ataggaggga 4020
gtgtgatctg acaccagagg acttaataata acattgcagt gttaacatct tcaactggcag 4080
attcatggac tttccccctc ctgaatgcat ttcaacacct tgaaatgaac gatgcctcat 4140
gtctctgcag ggtggacata gctctaactc tctgaagctg attatatgtc aagttctgtg 4200
tgaaatgaga gaccatgggg attcattatt gctggagttg acggtattgc agttttataa 4260
ccatctaata aattagcatt taatactgag agatttcac ttaaactcag aggattgctt 4320
tgttttaag aagatttttg caaggagaag caatggaaac cattcagaaa atgtgggaga 4380
taaaaatcct attcaagaaa acggatcttg gatctttgca ttcacttgat ttgtcagaat 4440

attattctgt gctaaaaaat agaagggatt aaatgttaaa aatcactgag gcac 4494

<210> 616

<211> 3555

<212> DNA

<213> Homo sapiens

<400> 616

aaactgtgct cctccggggc cctccgcctg ctcccagcca tgggtggcctg gcgctcggcg 60
ttccttgtct gcctcgcttt ctccttggcc accctgggtcc agcgaggatc tggggacttt 120
gatgatttta acctggagga tgcagtga aaacttcct cagtaaagca gccatgggac 180
cacaccacca ccaccacaac caataggcca ggaaccacca gagctccggc aaaacctcca 240
gggcccactg aaggtagtgg attggacttg gctgatgctt tggatgatca agatgatggc 300
cgcaggaaac cgggtatagg aggaagagag agatggaacc atgtaaccac cacgaccaag 360
aggccagtaa ccaccagagc tccagcaaat actttaggaa atgattttga cttggctgat 420
gccctggatg atcaaaatga tcgagatgat ggccgcagga aaccaattgc tggaggagga 480
ggtttttcag acaaggatct tgaagacata gtaggggggtg gagaatacaa acctgacaag 540
ggtaaaggtg atggccggta cggcagcaat gacgaccctg gatctggcat ggtggcagag 600
cctggcacca ttgccgggggt ggccagcgcc ctggccatgg ccctcatcgg tgccgtctcc 660
agctacatct cctaccagca gaagaagttc tgcttcagca ttcagcatgc agcagcaggt 720
caagagggtc tcaacgcaga ctacgtgaag ggagagaacc tggaagccgt ggtatgtgag 780
gaacccaag tgaaatactc cacgttgac acgcagtctg cagagccgcc gccgccgcc 840
gaaccagccc ggatctgagg gccctgtcca gctgcaggca tgcacaatgg tgccaccgct 900
tgtcaccggt ctccccccac cccttcattt ggacccgcag ctgctgtgct gctctgtgcc 960
atcggctcct tgttgggtctg agtttcccg atgagctctg ggtgtttgtg agtttggttt 1020
ctctgccctg cccaagcgt gctgagactt ggtgccgaaa ttcaagagcc agctctgata 1080
gaaagccagc accagcctcg ggagctgctg agccaccaac tcccaaagcc agcctgcctc 1140
cagctttact gagcacagga tgcgggggcc aagatgatgc tgaggcctga tgacatttat 1200

gcttagggga caagagtttg aactcaaggg actgtgaccc ctgcacactg gagtggctca 1260
ttgtggcagg tttctgccaa tagacagccc ctgacagtgg cctcaaggag ctgcaggtgg 1320
ggggctcagc ctgcacccac ttggagcccc tgcaaggagc gaaccggtca gcaccaagta 1380
acaccacaca cacgcagcac ccaggatgat ggtttcaactt cagtcttccc catcccaggt 1440
tttatgttgc tgggcttccg gagagccggt ccaagcggag gctttcagtg atttaagtac 1500
aaacatgcat ctctgtatag tcctgccttg agagcttagg aatcttccgg ataagtatga 1560
agcaattcgt aggcctgttt cccatctgat tccatagggg gctgggtgtg gccttcgggt 1620
tgacatgaga aaggtcttta gcaatcattt ctgcaccgga gatgagtttt atcctgtgtt 1680
ggggagaggt gctcacctc caccctgtgt ccctgttttg gtagcaagag tgaccgatgt 1740
caagaacgag catcaaagcc agaatcctgc ttgtttgctt aaaaatgtaa ttgggggagg 1800
cgggggagga gaggggaaag agacattcgc ttggtttagt gaaacgcagg tgactttgta 1860
gctctgtggt cagcctactt gtctgtctg agggagagtg cgtggggagc catgctcacc 1920
gtggcaaaca caggaacccc atgactcgcc cctcacctgg cgtggagctg cctggtttgg 1980
gctggagcag agctggtttc ctggaatgtt cctttggccc acatatggtt ctgtcccgtt 2040
gagctctgtt gtcagaggct cacgggacag aaccacatgc tagggtctag ggcccctgtc 2100
tactgatagt cagtttgctg tgtcagaaag cacttctgaa agcagatatg agtcaccaga 2160
caggcaggat cttacaaaac tcacgggcct ctttggctctg catgatggcc ccatgcgttt 2220
cataggctgt ccactgagcg ggattgtctg ctgagtggga tgagccaact ccagtttctt 2280
aaggaaacca ctggaatctg cagccccac atgcatctgt ctaacgcatg cctcgtgttc 2340
gttttgcaa catgcctgtg gtggagggtg gtcagttgta gccctgtgcg tctcaaggct 2400
gccttgtgag gccattccca gtgcgtgccc ttgagctcct taccaccct tttcctgctc 2460
ggccctttaa tccctgacag acctggactg tgtggctgaa gggggacctg cagcactgca 2520
gaaatgcctc tgcgtggtgc catgaaggaa agaaacctg gcctggtctc gagaagcttc 2580
ccatgcttca ggaagttagt aagggtgggg ttgcttgagc gattggcctg tttccagggc 2640
ctccacact cattggccag attgtgaact ttgtcaggct tgtccctccc tgataccaag 2700
tatgtcgaga accgatggcc ccaccctctg gctggtgctg ggccggaggt ggctatggag 2760
gattttggca tgcgtggcct gtcgccacct ggacagcgtg acctcagggg ttgtccactt 2820
tacctttatg gtgaggcctg tcggatggct aagtccttga aaccctagag ctgtgacgta 2880
gaatatgtgc tgtctgtgag accgtgttcc caggagcact gactgcagtt gagagagacc 2940

cattttgctc tcccttaccg cccccgccc cgggtgcttt ctgcacaaag cctagagcct 3000
ggcactcaag cccaccggtg gcagctccta gtgactggac atgcctggaa gaccctcag 3060
ccttctgttt gcagaacgtt catttcagga gcttctcctt cccacagaca tcttacactt 3120
gctcgacact gccacctgca gaagcctggc gggctctggt caccatgtgt ctatctgaag 3180
gttgactgg ccagcatggg cctgtcccaa gcgagagggg agacacagtg gactgaaagg 3240
actggttgaa agtggccaat ctctgtcagc ttaatttggc agagaaaatt tgtaacaact 3300
ctgagcacat gctgggtgaa gtcacagctc aaggaaagat aaagctgggc ggaaggaggt 3360
gtgcgtggct tctggggtgg gaccagagg ggaggctctg ggacaggggc tggggttcag 3420
tgccagggcc ctgaggaaga aatggggact gatctcaaaa ttccagaatt ccctgtacat 3480
ctgttcacgt gcttgtgtcc aggtgtgact tgtaaactgt ctagtgtttg cattaaataa 3540
aatggcaccg agcag 3555

<210> 617

<211> 3173

<212> DNA

<213> Homo sapiens

<400> 617

tatctcaata tacttgccct ctgtcaggca ggaagtcgtc ttccctgatt tcatggccac 60
gtggtgcctc agaccctcc agcctggccc atctgtacct gagtgggagg ctctaccct 120
cacttgccc ctttgtgggg acctgtggcc tgcactctgg ctggccaggg tcctggtgcc 180
ggcagggtt gcaagctgcc ctagagggtc tcacacatgt ggcctgcgtg gttggccttg 240
ggacaggcca cagagcaaca ggtccccaac tcgccccgcg cgatgaggcc tcagcccagg 300
ctccgcacta aatagaggct gccccgggtt ccccttcctc taacggtgga aatacttccc 360
gctggccagc gcgaccttag catgccccgg tgtgcgaagg ctaaaagcca gcccacttc 420
cctgtgctcg ccagtacat cctgaatgag tcggaagccc gcgtgaaggc cgagctgtgg 480
atgagggaga acgccgagta cctgcgggaa cagagggaaa aagaagcaag aatagcgaaa 540
gagaaggagc tcggtatcta caaggaacac aagcccaaga agtcttgcaa gcgacgggag 600

ccaattcagg ccagtaccgc cagggaggcc atcgagaaga tgctggagca gaagaagatc 660
tccagcaaga tcaattatag cgtgctccgg ggcctcagca gcgccggcgg gggcagtccg 720
cacagggagg atgcacagcc cgagcatagc gccagtgcc aagaagctgtc acgaaggagg 780
acgccggcca gcagaagtgg ggctgaccct gtgaccagtg tggggaaaag gttgaggcct 840
ctggtgtcta cgcagccagc aaagaagggtg gccacgggag aggtgtgttg tcccacgcag 900
ccagggcagg gagaccttgg gaggcagccc acttcttctt gggcccagat gcttggtctg 960
tgaccacagg gagagcaggc ctgacagagg cgctgcccc tgctgcccc tacttgctg 1020
gcatggccag agaatcagg cccgagggtg ggagctccc gttgctggag caggagcggg 1080
caggaagtgg ggaccgttgt gtgcctgctg ctgacgctc gggccaaggc tgagcagcct 1140
tgctgtgggc ctggtgcctg cagggagcct gtatgtagga agcaggcact gccaggtcac 1200
agggcccagc cctccagggc tcaggggtct ttcacctgga ctgtcacttg ttggggactg 1260
gtctggcccc ggaaacgagg gtgaagggtg tggcaggtgg cgggggctgg ggcaggggcc 1320
ggagcagagc ctctgtctgt gttctggggg tcagggcagg ccaagcccc gggggctgag 1380
gccacagtgt cctcgccga ggcctatggt ctggaaagg gttctgcatg ctccccgagc 1440
actggggtgg ggcccagtag gatacaggag caggggctgg cagaggcctg aggggtgggat 1500
cttgatgctg acacagctca tggcacagcc cccaggaggc cagaaggggc cagtgggcct 1560
gggagccctg gccaaccccg ggagccactg gtgtggcggg agtggctgag catcctgggc 1620
cagccctggt gggctctgagg ggtctgttga gatacacagg gctcccagct ctgtgtgtgt 1680
cagagcccca ctctgttcca ggctttgctc ccaagctctc ccaccctcg atctgagcct 1740
gccaggcccc aggcggtgct ggtggagagc gggcccgtgt cataccacgc cgacgaggag 1800
gctgacgagg aggagcctga cgaggaggac ggggagccct gcgtcagtgc cctgcagatg 1860
atgggcagca acgactatgg ctgtgatggc gatgaggacg acggctactg aagtgtggcc 1920
tccaggcagg tgatgtcctg gcagggggcc tcgcgggtct cctcagcatc agacgggctt 1980
ccaggaccgc agcaggcagg cccagcgcg gagactcctg gtgacagggtg gcacctgtcc 2040
cacagccctc gtcccatgtg gaacttacca ttgggattgt gtttctattc agcaagggaa 2100
accggaccaa gcgtctgcat gtgtgtgatc agatgtgggc cgggtgtgtg cagggctggg 2160
tcccgtgcc tgccgtcgac tcatccaagg accctccaag gctggcagtg tgggtgtgct 2220
actattaagg aaacaggctt ggggcagccc cactgctggt ccaagtgtgt ggagggtga 2280
gtgtgctggc cctgtgactc aggaccagct ctggagtctc cagccccacc tccgcaccgt 2340

cccctcctga gcagcactcg gcgccagcag cctctgccag agtggaagcc agagccctgc 2400
 aggtgtccgg cgcagccgtg ggagctgagg atctggcact tgagaggcag cagctccttg 2460
 aaggtcctct gcctccagct gtggccctgc atccagatac ctgcctcgtc cgaggcagac 2520
 acccccaccc ctgcctcctc cagaccccc tccccgctgc ctgcaccgcc tggagcagca 2580
 tgggggtcag acccctgctc cagggccact tgagttgtgg gcccaggagc cctgcggctg 2640
 ccggcaggtg aactgagtgc ccgacagctg agaccggcgc ccaccgtcc tgagcatagc 2700
 tctgtaggca gtgcgggcat agcctgcata gtgtcctggc gctgggagtt gccctggac 2760
 agagccagag ggcaagtggcg ctccctgtca gagctggatc agggccccca tcgaggaggg 2820
 agggcagacg gagggccgag agcctcccca ggctctctcg tgggaaggcc ccagtaccac 2880
 tcgtaggagg tctcagctct ggcatggctg ccccgatgt ggccgagggg gcttcaccct 2940
 gtgtccttag gagggggtgg ccttgaggca gagccgtgcc tctactgacc ccaggggcct 3000
 catcctcccc atggaatggg ctgtatgtcc tgccccaact tggccgcag caggccagac 3060
 cccctaccc ccgccagag ctcagtagcc agcctggttc ctgccagggc ttctcgaggg 3120
 cttgggggaa gaatagattt agtaaagcag gaagatctgt tgttacttaa cag 3173

<210> 618

<211> 3473

<212> DNA

<213> Homo sapiens

<400> 618

gttggctggg cgtggtggtg cagcctgta gtcccagcta cttgggaggc tgaggcagga 60
 gagtgccttg aaccaggag gcggaggctg cggtagcca agatcgggcc actgcactcc 120
 agcctgggca acagagagag actgtgtcag aaaaaatgaa aaaccagcac cagcatgaag 180
 agcctgtgta ttgcatgggg tactttgctg cccttgggca gaatctgcat ccctcccagc 240
 cagcaggcac tgcggactgt ctctccctc tccctccagg ctctgtttt cccaccgtcc 300
 ccactcctgc tgcaccagtg catctgccct cctttccaag tgccagcctg tggccacctc 360
 agagcttgca ccagctgttc cactgcctg gaacttgctc atcctgcact tggcttctct 420

cggctttagc tggagtgtca ccctgagcgt cccctcccct ccatcctgtc cccagggaca 480
cacactccaa gagagcagtt gccgagtggg ccttcccgcc tcttccatag agccagacag 540
ttggcgactg tccttactgc aagccctggg tcacactggc tcccctggga gggaggtggg 600
ttaggcccac gtgccctgtg ttctgtctca gaatgggcat tagaaatgct gcaatatcct 660
gtgccactgc agtggaagca tctttaggaa acggcttata tcttaagaca aacttcagat 720
gcgtggggcc agaacgccgt gtccatctac atctttgtctg agggatcggg tagcctggag 780
tttgcctctt gctgtgttgg cttgaagctc ataggagact taagacgggc tctcgagcaa 840
ccaacgttct gtcctttgct gtagactgtg aagcatcctg tgtgtgtgaa gcacccgcc 900
tcagtcaagt gtgccagtg ctttctctca gaactcatca aaaatgtcag caatgggcag 960
tgtccgcca gtagctggac agcatagcca cctgcgtgct ggagcccccg tccttcccag 1020
gccctgggcc tgctttgcc ataccagcat ggcaggggcc tccccaggca actggctgca 1080
gctgagtgtg acccatggga gacagtgcag ggcaggaaga aggggagacc agcgtctctc 1140
cctcactctg cctcatgggg ttccacagc agctgcttct ctggggcccc agctcctaga 1200
atatgaattc tcattcctac caggctgggc cagcccacag cactggaacc ctcattcaca 1260
ccctctgtcc tgcccgtga agggtttggg gtttctgtct cttgtctgtc tctgggttgc 1320
cccacaggcc cctgttgga gatttagctc ttgccatacc tttggaacta gttcctctgt 1380
gaattctctg cattgatcct gctggaatga gctctttcct gactgataca ggatggattt 1440
tattttttac ttatttattt agttttttga gacagtctta ctgtggtgcc caggctggat 1500
taccgtggca cagtctcggc tcaactgaaac ctctacctcc tgggttcaag caactctcgt 1560
gcctaagaag ctgggactac aggcacacgc cgccatgcct ggctaatttt tgtattttta 1620
gtagagatgg agtttcacca tgttggcgag gctgggtctcg aactcctgac ctcaggtgat 1680
ccgcctgcct cagcctccca aggtgctggg attacaggca tgagccacca cacctggcct 1740
aggatggatt ttaaagatgg gcccacacat gcagggtttg acatgaggat gtcgagaggc 1800
cgttccttag taggcagtag cagacctgct gagtgaaagg gccacacttt tagcaaataa 1860
acaatcccct gcttctccaa tacctgcttt ctccctagtc ctccccaaaa gcgtgcatct 1920
gtgttcacca gcaggctctgc cctgtgccac caggagaggg cagcagtcac ccagtgtacc 1980
ctgtgctgc cctgtgaatc ctaggatggg accagctgtg gagaagcggc ctgctgacag 2040
ccacagcctg cagcatgggc cgccctcaca gtctgcctg ggctcactta aaagcacctt 2100
ttgttttctt cctctctgtt tgatecaaac acagagctct ctgtcatggt cacgtggcag 2160

ctctcacgga atccttggtt ccttccttag actacaccta accctaacct ctcaacacct 2220
cttggtgaag gccctcccat ccagggtgcc ctaccaagtg aaattttttt tagagacagg 2280
gtctcttgcc caggctgtcc tcgaactcct gggctcaagc agtcctcccg tgtcggcctc 2340
tagattagct gggactattc ggcacacacc accacaccca acgaagtgag tattttatat 2400
gccagctggc tgggtattaca ccattccatc ccaaactctc cctccaaact tggtgaaaat 2460
catctgacca tttttacaga ttagaacgaa agcaaacaag ctctcactct gtctgcccc 2520
agcacgaggc tgtccacacg gagcttttgg acgagctgta cgaggcgctg gcagagaccc 2580
tgatggccaa ggagtccacc caggggccact ggagctatct gctggtatga gaagggcacc 2640
ctctccccc tcacagccca gatacccttc ctgcacagac aaagtgaaaa cgtgggtgtg 2700
gggtcaaata ctgactcacc cattctgcag tcttagacat gaggtccgtt aaccttcttt 2760
agcctcagtt tccctgtctg taaatcaagc acttcaacaa caacagcatg tctcgtgggg 2820
ttgttgggca tttgtccaat aggtgacaca cactacctgc ttcacaagga cctggtgccc 2880
agtcctcaaa gaatatttga cagggtctga catggtggct cacgcctgtg gtcccagcac 2940
tttgggaggc cgaggcgggt ggatctgagg tcaagagttc gagaccagcc tggccgatat 3000
gggtgagacc tatctctact aaaaatacaa aaattaggcc aggcgtggtg gctcatgcct 3060
gtaatcccag ctttttgga ggctgaggcg gggggatcac ctgaggtcag gagtttgaga 3120
ccagcttgcc caacatggtg aaactccatc ttactaaaa atacaaaaat tagcggggtg 3180
tgggtggggc cgcctgtaat cccagctact caggaggctg aggcaggaga atctcttgaa 3240
cccaggaggt ggaggttgta gtgagccgag atcacgctat tgcaccacgg ctttggaat 3300
gagagcgaat ctttgtctca aaaaaagta caaaaattag ccggacatgg tggcacacac 3360
ctgtagtcac ggctacttgg gcagctgagg caggagaatt gcttgaacc aggaggcaga 3420
ggttgagtg agccaagatc atgccactga ctccagcctg ggtgacagag ctc 3473

<210> 619

<211> 3571

<212> DNA

<213> Homo sapiens

<400> 619

atacccgctct	cctcatccct	gggaaggaga	tggttctgga	gggggatagg	ggaaaagggg	60
gaagggggaa	gggcaaggag	gaggaggagg	ggagatgagg	tcagggtgtg	agtctctgag	120
ccccttcccc	tgcccaaggg	agcagcagct	cagcccagct	ctggaggggc	catcatggga	180
ctgtgcccac	ggggagggca	ccggtctgga	gacagtgggt	tcacagtggg	agtgggatgg	240
gggtgggagc	gctggggaca	gaggacttga	cttcctgagg	ttggatgttg	taatctcggt	300
tcacaaactt	ttggcctcag	tccctcctgc	tgctcctggt	atttctctgt	cctttcactc	360
cccaacacac	acagcccccg	ccccaacaca	tacacacacg	gcttctttct	gtctgggagt	420
ccctggacaa	gtcacatggg	attctgcgct	gggaggaaca	gggtaaggcg	tgaacgtgga	480
gggcagtttc	cctttcaggt	cccggctctc	ttggctttcc	cataagcagc	tgctttggga	540
ctctcctgga	gacctgatgc	ccacagccaa	gctgaccaca	ggagccgggtg	ctggggactg	600
agggaaactt	agagttcaga	gaggggggtg	gatttgcctg	aggtcacaca	gcaagttaga	660
gaccagctc	cacgactcat	tgtcttggct	ttggccctcg	tcctcctgcc	caccagcggg	720
ggcttcccaa	cccaccacac	agccgtggac	gggaagggtg	cagtgaaga	gtgtgggcct	780
cctgcagtct	cctgggtccc	cgaggaggga	gagaagttgg	accaggaaga	cgaggaccag	840
gtgaaggatc	ggggccaatg	gaccaacaag	atggagtttg	tgctgtcagt	ggccggggag	900
atcattgggc	tgggcaatgt	ctggagggtt	ccctatctct	gctacaaaaa	cggaggtgga	960
gccttcttca	tcccctactt	catcttcttc	tttgtctgcg	gcatcccggg	gttcttctctg	1020
gaggtggcgt	tgggccaata	caccagccaa	gggagtgtca	cagcctggag	gaagatctgc	1080
cccctcttcc	agggcattgg	tctggcatct	gtggtcacgc	agtcataatt	gaatgtctac	1140
tacatcatca	tccttgccctg	ggctctcttc	tacctgttca	gctccttcac	ctctgagctg	1200
ccctggacga	cctgcaacaa	cttttggaac	acagagcatt	gcacggactt	tctgaaccac	1260
tcaggagccg	gcacagtgc	cccatttgag	aattttacct	cacctgtcat	ggaattcttg	1320
gagagacgag	ttctgggcat	cacctcgggc	atccatgacc	tgggctccct	gcgctgggag	1380
ctggccctgt	gcctcctgct	cgcctgggtc	atctgctatt	tctgcatctg	gaaggggggtc	1440
aagtccacag	gcaaggtggt	ttatttcaca	gccacgtttc	cgtacctgat	gcttgtcatt	1500
ttgctgatca	gaggtgtcac	ccttcccggg	gcctaccagg	gcatcatcta	ctacttgaag	1560
ccagatttgt	tccgcctcaa	ggaccctcag	gtgtggatgg	atgcgggcac	ccagatcttc	1620
ttctcctttg	ccatctgcca	ggggtgcctg	acagccctgg	gcagctacaa	caagtatcac	1680

aacaactgct acaaggactg catcgccctc tgcttcctga acagtgccac cagctttgtg 1740
gctgggtttg ttgtcttctc catcctgggc ttcattgtccc aagagcaagg ggtgccatt 1800
tctgaagtgg ccgagtcagg tcctgggctg gccttcacgc ccttcccaa ggctgtgact 1860
atgatgccct tatcccagct gtggctcctgc ctgttcttta tcatgccat attcctaggg 1920
ctggacagcc agtttgtctg tgtggagtgc ctggtgacag cctccataga catgttcccc 1980
aggcagctcc ggaagagcgg gcggcgcgag ctcctcatcc tcaccatgc cgtcatgtgc 2040
tacctgatag ggcttttctt ggtcaccgag ggcgggatgt acatcttcca gctgtttgac 2100
tactatgctt ccagtggcat atgcctgctg ttcctgtcat tgtttgaagt ggtctgcata 2160
agctgggtgt atggggcgga ccgtttctat gacaacattg aggacatgat tggctaccgg 2220
ccatggcccc tggatgaagat ctcctggctc ttcctgacct ctggactttg cctggccact 2280
ttcctcttct ccttgagcaa gtacaccccc ctcaagtaca acaacgtcta tgtgtaccgc 2340
ccctggggat actccattgg ctggttcctg gctctgtcct ccatggctctg tgtccactc 2400
ttcgtcgtca tcacctcct gaagactcgg ggtcctttca ggaagcgtct gcgtcagctc 2460
atcacccctg actccagtct gccacagccc aagcaacatc cctgcttga tggcagtgt 2520
ggccggaact ttgggccctc cccaacaagg gaaggactga tagccgggga gaaggagacc 2580
catttgtagg gtgtggccag aggccaggcg gctcctaagc cgggaaaccta ggtcagggcc 2640
acctccatt ctcagcggac agcctctgcc tctgtctcct gccacaatcc tgctgggaac 2700
ctctggagag ccacaggcac ccccagctgg aggccagact cctctcttgt gctagctgga 2760
gcagctcctt cccctttgtt gataaacct cactgggac gtgccatgtt gggacgccac 2820
tccctgtggg aaggcaccat cgtttttata aaggggggtc tttttggagg ccgccatctg 2880
attgcaacac ctcgagttat gaggattcca ctgtggggat gcctcttgtt agagcgtact 2940
gcatttgtag acggggagag gagctataat tggaaacgcac actgccgtcc aatgtggaga 3000
gcctgatggg acaataacct gttggaagtg acaactgaac aactgtgtt ggatcggagg 3060
ttccgttagg ggatccttcc ttaggcttaa cgacagaggc aagcctttgc atgccgtcag 3120
tctggagttt cctccgagtc tctcatggca tctccagctc ctgccctagt tccgactgt 3180
tcttgagtg tttcatcaac tcctggagca ttggaatgga aggggcttgg gagatgattc 3240
ctagacttca caaacactcg gcatgcctcc ctgactgtc cgttcctctg cccaaggccg 3300
atattgctaa ctgatcacag attctttccc acctcacaat cctccgaat gtgctccagg 3360
cagcaccatt tgccatcctg cttctaagc aaaccctga cttcatggat gaggaacctg 3420

gagaccaaag agacaaaggg actttttcaa gttcacatgg ggaccccctt cttggggggcc 3480
agagatatga ctaaaacctt atctccttgt gctcaggcca gtgtcttccc attaaccccc 3540
tgccttagtt aacaagtgtg tatggattgc c 3571

<210> 620

<211> 3455

<212> DNA

<213> Homo sapiens

<400> 620

aaaagacttc agtggcagac aaaggaggag taataagatc gctagggggc ccgtgcccag 60
cccacccacg cacaatctca gtctctgcaa taccacaag gtaggtgcta ggatcacacc 120
ctttacggac gcggcacctg cgacagggat gcgcgaggag tcagggggcc tcgccggatc 180
gaacctaagc tggggaagag tatttcttgt atttttagga gaaattctca gcctcgggga 240
agagtatttc ttgatgaggg aagagcgcg ggaagacact cacgcacgca caaacatgtg 300
ggcggccatg gtgtgcccag cgccgtgctg gcttctggga acccccagtg gacaagacgg 360
acaaggtacc ggctctcatg ggaagtggga gccagtcaca agcgtacctt atttcggaga 420
gtgacaagta ctctgaaaaa gaaagaaggt agggctgggt actggccaat ttaagcgggc 480
aggagtctgc tgggggacgg agaccagcct caggctctggg ttggggacag aagctgtgcc 540
taagtgtggt gcaggatgca gttgcaaagg agcgcttccg atcgacttg atgctcgcca 600
cgtccctgca aagtgtccc gcccccttc tgcaaatgag gaaacgggac gcgcggctcg 660
ccgggccagc ccgcgtgcct gcgcagtccc ctccccgaga accatcccct tgccccgccc 720
agcgtcaggg gtgcgcggcc gccgagagac cccggaggcg tagccggctg cggaggcgaa 780
gaggtggcag cgcgagctgg gaccagcgtc tcggaggcgc cgcagaattc acagatggat 840
tcagtggaaa agacaacaaa tagaagtga caaaaatcca gaaagttttt aaaaagcctc 900
atccggaaac agccccagga actgctcctg gttatcgga ctggcgctag cgcagcagtg 960
gccccggaa tccctgcctt ttgctcgtgg agaagctgca tcgaggccgt catcgaggct 1020
gcagagcagc tggaggtgct gcacccccga gacgtcgccg agttccggag gaaagtgaca 1080

aaggaccggg acctgttggg tgctgcccac gatctgatcc ggaagatgtc acctcgacaca 1140
ggcgatgccca agcccagctt cttccaggac tgcctgatgg aggtgtttga cgacctggag 1200
cagcacatcc ggagtcctct ggtgctgcag tcgatcctca gcctgatgga cagaggcgcc 1260
atggtcctga ccaccaacta tgacaacctg ctggaggcct ttggccggcg gcagaacaag 1320
cccatggagt ccctggactt gaaggacaag accaaggctc ttgaatgggc aagagggcac 1380
atgaagtacg gcgtcctcca cattcacggc ctctacacgg acccctgcgg ggtggtgctg 1440
gacccatcgg ggtataaaga cgtcactcaa gacgcagaag tcatggaagt cctccagaac 1500
ttataccgca ccaagtcctt tctgtttgtg ggctgtgggg agacccttca tgatcagata 1560
ttccaggccc tctttcttta ctccgtgccg aataaggctg atttgagca ctacatgctt 1620
gtgctgaagg agaatgaaga ccatttcttt aagcatcagg cagatatgtt tctgcacgga 1680
atcaaagttg taccctacgg ggactgtttt gaccactttc caggatatgt gcaagacctt 1740
gccactcaga tctgcaaaca gcaaagccca gatgctgatc gcgtggacag caccacatta 1800
ttgggtaatg catgccagga ctgtgcaaag aggaagttag aagagaatgg aattgaagtt 1860
tcaaaaaaac gcacacaatc agatactgat gatgctggag ggtcttgaaa tctttacagt 1920
aaaacctgca acttgaaaac tagccttctg taaccacagt gcccaaacga agaggaatgt 1980
atggagaact ccacgtggat ctctgattgc gaaaccgtca catacaccaa gagagccaca 2040
tgggcatgtg gccctgaagg ctgggtgaga gggctcccct gtgtgttgaa ctatgcagga 2100
gggtgacgcg gacacatttc aggtggactt tgcaaggact gatggatagc tacctcaggg 2160
accagaatcc gtgggaaggg atggacctgg tgttcccgtt cccatctgac aggctctctt 2220
ttgtcaaggt ggtatttttc gtaataaaaag gggaagagta aagactgtcc aagcaacagt 2280
agctgccaaa gagaaaatac gaaatagaca cttttttttt tgagtcagag tctcactctg 2340
tcgcccagga cagagtgcag tggtagatc tcaagtcac tgcagccgcc accgcctggg 2400
ctcgggtgat tctcctgcct cagcctcccg agtagctggg attacaggcg tccaccacca 2460
tgcccagcta atttttttat ttttagtgga gttggagtgt caccatgttg gccaggatgg 2520
tctcgaactc ttgacctcag gtgatccacc cgcttggcc tcccaaagtg ctaggattac 2580
aggcatgagc cactgcgccc agcaaaaataa acacatttta taatttgtat gtggaaacat 2640
gttactatag aaagcatttt aaaggtacgt tttaaagtc cactgttaaa tagtaaagaa 2700
tgaatccgct agcgaaaatg ttttagggga gaacagctgg atcaaaaagg cttcttttga 2760
attaggttgt tttagtaact tctgttccaa agaaacacag gtctgatatt gctaagaact 2820

gaaatcggag gagccagagg cccttttcag tccaggccaa cattgtgcac ggccactgtg 2880
ggactgacaa ccgggatagc tcaagttcga gagaccaggt ttcaaacatt gtaagttcca 2940
ggctttgcaa gtctttattc tctggggtaa tatccagtct ttctgttatt gtctcttaaa 3000
attctcttcc atggcccaca ttaagggagt ttgcagagag tgaggaggc aaaacttgaa 3060
aagggcctgc aacactttaa accttctcag gtccaccac acgaaacggc tgtgctgagt 3120
gtgctgccgg tgcccgggga gcttctctga ctgtgaccg gcagaggctt ctgtggcggt 3180
gcatgagcgg ccctacagtg gagggttctc tttggaaaca aacagccctg cttggtttca 3240
gtttgaggcc acttatcttc aatgtgacat ttcttgccaa gccctgtgac actccccatt 3300
gatgactccc ataggtacag ataaagttaa gaacaggaaa cagaagggtg ggatgcatag 3360
ggaggggagag aagccctgaa aacttttttt ttctttttga agcatgggaa acaaattctt 3420
tatgccactc cagccataaa taaaatttta acttc 3455

<210> 621

<211> 3736

<212> DNA

<213> Homo sapiens

<400> 621

agggttcgg cttccctgct tcacacatgt gggtcactgt tgcggggggt cgtggagtta 60
tggtgggtgg gaaatccgag attctttgca tccatgtgat ttctgcggat ctgtgaagaa 120
cttcaggcct gggctctgagc gtccttttcc caacccttgg gccccggcct ggctgtcagc 180
actttcggag ctccaccctc ttccgtgcac cccaaggcca gtgtgtcggt gttagcgtgt 240
ggggtggaca gatctgggtg gtagccggtg gtggagaaag gactcatttt gtcctagcac 300
ccacacacac aggccccac tcctctccac ctctgctaag gagggctcaa aaccaccag 360
cataaatgtg gctcggtagt ccaacgtgga cttttaattt ttttttcttt ttttttttc 420
cagagtctac aataaaacat ctaattgggtg tcagagagtt tacagaataa aaccttctga 480
atgtcttgtg taatgtttgt cttgtaggta tctcttcaac tgtggagaag gcgttcagag 540
actcatgcag gagcacaagt taaaggttgc tcgcctggac aacatattcc tgacacgaat 600

gcactggtct aatgttgggg gcttaagtgg aatgattcctt actttaaaagg aaaccgggct 660
tccaaagtgt gtactttctg gacctccaca actggaaaaa tacctcgaag caatcaaaat 720
atthttctggt ccattgaaag gaatagaact ggctgtgcgg cccactctg cccagaata 780
cgaggatgaa accatgacag tttaccagat cccatacac agtgaacaga ggaggggaaa 840
gcaccaacca tggcagagtc cagaaaggcc tctcagcagg ctcagtccag agcgatcttc 900
agactccgag tcgaatgaaa atgagccaca ccttccacat ggtgttagcc agagaagagg 960
ggtcagggac tcttccttgg tcgtagcttt catctgtaag cttcacttaa agagaggaaa 1020
cttcttgggtg ctcaaagcaa aggagatggg cctcccagtt gggacagctg ccacgctcc 1080
catcattgct gctgtcaagg acgggaaaag catcactcat gaaggaagag agattttggc 1140
tgaagagctg tgtactctc cagatcctgg tgctgctttt gtggtggtag aatgtccaga 1200
tgaaagcttc attcaacca tctgtgagaa tgccaccttt cagaggtacc aaggaaaggc 1260
agatgcccc gtggccttgg tggttcacat ggccccagca tctgtgcttg tggacagcag 1320
gtaccagcag tggatggaga ggtttgggcc tgacaccag cacttggctc tgaatgagaa 1380
ctgtgcctca gttcacaacc ttgcagcca caagattcaa accagctca acctcatcca 1440
cccggacatc ttccccctgc tcaccagttt ccgctgtaag aaggagggcc ccaccctcag 1500
tgtgcccag gttcagggtg aatgcctcct caagtaccag ctccgtccca ggaggagtg 1560
gcagagggat gccattatta cttgcaatcc tgaggaattc atagttgagg cgctgcagct 1620
tcccaacttc cagcagagcg tgcaggagta caggaggagt gcgcaggacg gccagcccc 1680
agcagagaaa agaagtcagt acccagaaat catcttcctt ggaacagggt ctgccatccc 1740
gatgaagatt cgaaatgtca gtgccacact tgtcaacata agccccgaca cgtctctgct 1800
actggactgt ggtgagggca catttgggca gctgtgccgt cattacggag accaggtgga 1860
cagggtcctg ggcaccctgg ctgctgtgtt tgtgtccac ctgcacgcag atcaccacac 1920
ggtgagtgtt gggctggacc acaaagctgg agcctggagg aggcactgcc acgttgagtt 1980
ggcccttttg ctgctctttt tcctccgctt ccaaacttgc ccagagcttt tggtactcat 2040
ctctggctag gaaatggttt tttgcaaaac tcaacatagt cttctgctgc cacaagaatg 2100
tcttctcttc ctgttcagtt ctttctctgc agcaggacag gtttgagttt acccagcctt 2160
ccttgagtct tgaatctcac acggcctgct cagcgggaagc tttgaccgga tgcaggagggt 2220
gtggctatga gaccctcacc ttggtctcct ggggtgccgg gccctgggcc gttgccctct 2280
tcccagcacg ggtcgtgtcg ctttctgcct gtgacatttc agggccatgg cgcagggggc 2340

tcggcctgtg ccacccccac tgcggctgtg ttagaggctg gtgggtgacg tcgggctggc 2400
 aactcctgca agagagaggg ctgcagaccc taacccggag gggatggccc tggggcctgg 2460
 ctgacgcatg tctcctgttt ccttgccagg gcttgccaag tatcttgctg cagagagaac 2520
 gcgccttggc atctttggga aagccgcttc accctttgct ggtggttgcc cccaacctgc 2580
 tcaaagcctg gtcccagcag taccacaacc agtgccagga ggtcctgcac cacatcagta 2640
 tgattcctgc caaatgcctt caggaagggg ctgagatctc cagtcctgca gtggaaagat 2700
 tgatcagttc gctgttgca acatgtgatt tggaagagtt tcagacctgt ctggtgcggc 2760
 actgcaagca tgcgtttggc tgtgcgctgg tgcacacctc tggctggaaa gtggtctatt 2820
 ccggggacac catgccctgc gaggcctctgg tccggatggg gaaagatgcc accctcctga 2880
 tacatgaagc caccctggaa gatggtttgg aagaggaagc agtggaaaag acacacagca 2940
 caacgtccca agccatcagc gtgggggatgc ggatgaacgc ggagttcatt atgctgaacc 3000
 acttcagcca gcgctatgcc aaggtccccc tcttcagccc caacttcagc gagaaagtgg 3060
 gagttgcctt tgaccacatg aaggtctgct ttggagactt tccaacaatg cccaagctga 3120
 ttccccact gaaagccctg tttgctggcg acatcgagga gatggaggag cgcagggaga 3180
 agcgggagct gcggcaggtg cgggcggccc tcctgtccag ggagctggca ggcggcctgg 3240
 aggatgggga gcctcagcag aagcgggccc acacagagga gccacaggcc aagaaggtca 3300
 gagcccagtg aagatctggg agaccctgaa ctcaagaaggc tgtgtgtctt ctgccccacg 3360
 cagcaccgc tatctgccct ccttgctggt agaagctgaa gagcacggtc cccaggagg 3420
 cagctcagga taggtggtat ggagctgtgc cgaggcttgg ggtcccacat aagcactagt 3480
 ctatagatgc ctcttaggac tgggtgcctgg cacagctgcg ggccaggagg ctgccacacg 3540
 gaagcaagca gatgaactaa ttctatttca aggcagtttt taaagaagtc atggaaacag 3600
 acggcggcac ctttctctta atccagcaaa atgattccct gcacaccaga gacaagcaga 3660
 gtaacaggat cagtgggtct aagtgtccga gacttaacga aaatagtatt tcagctgcaa 3720
 taaagattga gtttgc 3736

<210> 622

<211> 3408

<212> DNA

<213> Homo sapiens

<400> 622

```

aaatttaa at cagtcgttct tagggaaaaa agaaggaaca gggacaagct cctggcggtt 60
ggctgtggca gacattcac caggggctga ctgcgggggg ctgagtgtac aggccccagg 120
tggtgggtga tgagaggtag tgagtgtgcc agccaccttg caggggtctt tcctggcgag 180
ctggcaggag cagggaggag cacgttgctc ctgctgctgg tggggcagta acgtgttcaa 240
cctgacagcg acgtttttgc tgaaagccga agccaagggt ggtgtggttg gccgtcaggg 300
atacagggcc ccgctggga atggtgcttt cagtgaaggct ggcaggattc ttgcggctca 360
ggtgggagct ttggcctgca cgggtgtttg ctctctggag accaagggtg atgatggtgc 420
tggcactgag tcacagctga gattcagctc agggacttca tttctgaatg cgtgtcctct 480
ttcccaggga aagcaggcag gatgggagag tcgccgatag aaccacctct tcctgcctc 540
ctgggcttgg gggaagcttg aatgacatct aaggccccgt gcctgggtaa gccttgttgt 600
gtctcagaca tgcccagtgg gtgccatggc tgactcaagg tggcacagtc ccatttggga 660
gttggcacag tccccattgg gagttggcac agccaaggcc ctggggccac ctggagcggc 720
agtgaggtgg aaaggtgagt gggcccttgg gcgtcgctgc agggtcgatg gcggacgcct 780
tgggagagct ccagctcttc tgcccgagg agacagcccc aggacggggg tggcgcggtt 840
ctttggtggg ggcaggcagg aagtgccagt gctgagactg aatttcaggc ctttctcatc 900
tgccaataag agacagcccc agaattggggg tggcgcggtt ttgtcggggg taagtaagt 960
gggccagtgc tgagactgga gcttcagggc cttcaccttc atctgtgggc ctctcgttag 1020
ttcgtgagtg caggctcatt gggaggcttc tgtctgtgtc cccccaccc cgccccaggc 1080
tgtaattcag aggccgtgtg gcataggctt ctagtttact gtgcatcatt tcagatgtag 1140
acttctacat tctttttcct gattataaaa tactcgcaa agctgtagga aagcgagcct 1200
gtgtcccact tggcagcagt gcaggtgagc gtggtgccgt caccactggc ctgtcccagg 1260
aactcatcgc ccgccacgca tgaggtcagc gtgcggctct gtggcacggt cctctcccca 1320
tggcaaggat tgggatcatc tttcatgtct gcagacagca tgggcgaggc tgactcgcca 1380
ttgctgtgag ctttgtatgc cgtcacgtgc acaaggacgt ttgcgtcagc tgcttctgtg 1440
gtttgaatta agacctcagc ttggcttggga tgggggcatt tctaaggcga gcgctgtctt 1500
gatcctgaat gttttctcat tgaatcgag gaagctcttc gtgggcggtc ttgactggag 1560

```

cacgacccaa gagactctgc gcagctactt ttcccaatat ggagaagtcg tagatttgtgt 1620
tatcatgaaa gataaaacca ccaaccagtc tcgaggcttt gggtttgtca aatttaaaga 1680
cccaaactgt gtggggacgg tgctggccag cagaccgcac acgctagatg gccgaaacat 1740
cgaccccaag ccatgcacac cccgggggat gcagccggag agaacacggc cgaaggaagg 1800
atggcagaaa ggaccagga gcgataacag taaatcaaat aagatatttg tcggtggaat 1860
tcctcacaat tgtggtgaga cagagctcag ggaatacttc aagaagttcg gagtggtcac 1920
ggaggtagtc atgatctatg acgccagaaa gcagaggccc cgaggtggaa gttaaacgag 1980
ctgagcctcg ggacagcaag agccaagcgc cgggacagcc aggtgccagc cagtggggga 2040
gccgggttgt gccaacgct gccaatggct gggcaggcca gccccgccc acgtggcagc 2100
aaggatatgg cccgcaagga atgtgggtgc cggcaggaca ggcgattggt ggctatggac 2160
cgccccctgc aggaagagga gccccccgc cccccacc gttcacctcc tacatcgtgt 2220
ccccccctcc tggaggcttt cccctcccc agggcttccc tcagggtac ggtgccccgc 2280
cacagttcag ttttggctac gggcctccac ctccaccgcc agatcagttt gcccctccgg 2340
gggttcctcc tccaccagcc actcccgggg cagcacctct ggctttcca ccgcctccgt 2400
ctcaggctgc cccggacatg agcaagcccc cgacagctca gccagacttc ccctatggtc 2460
agtatggtta cgggcaggac ttgagtggct tcggacaggg cgtctcagac cccagccagc 2520
agcctccttc ctacgggggt ccttcctgc cagggtcggg gggccccccc gccggcggca 2580
gcggctttgg acgagggcag aaccacaacg tgcaagggtt ccaccctac cgacgctagc 2640
ccgcggcgcc gcgacgtctg cacggcccag acccaggatt ccaaacttgt gaactcgtga 2700
caatcacaaa cttggtggca aagtggcgac tcaaccttgg gggggggggc ggggggaggg 2760
cgcgaggctt ttggagcggc tgtgggtgtc gtctggactg aggtttttaa atatttcttt 2820
ctctaacca tcagcacaat aaaaaaagt cactggttca acaacagggt ttaaaaaaa 2880
tgtcttcagc ttaattcaa aacttcaggt ttcttttct tcctttttt tggaattat 2940
tttcctgagc cttttgtttt acggtatatt gtaaactttt atgttaaaga aaaaatatac 3000
atttacaaat tgtgagattt ttaagagaaa ttttctacga tgtatactgg cttatttttt 3060
aatttaaaac ggggtttccg tcggcactgg tggagggggg gcgctgttag tcccctcgct 3120
cctggctttg ggggttggga cttggtggtc cagaaactct gggagcttct agaagaaatc 3180
tactgagtgt atttctgttt tttgtttaat tccttgcttt tgtcgactga cctgcttggg 3240
agtgtctgag gtgaactgtg ggggttgcgc acagccagcc gcgtggatcc cacgcagcgc 3300

tgaaccgaac cgagtaggaa gcctttctcc ccaggcacgt ggcttcaggg cgtttcccat 3360
tgaccagttt gaccctggtt tgaataaaga gaagtgcgtt tggattag 3408

<210> 623

<211> 3450

<212> DNA

<213> Homo sapiens

<400> 623

ttctctggga gctacaaaaa ggaggatgtg tggacaaatc aaaacagaaa caaatagcag 60
cttcctgctt tgtcctgtag accaggtacc ctgatgcctt cctagcatgc ggaggaatga 120
ggaggaagcc atgcccatcc ttgtcccctc tagacacttt cccggctcct gtccagccca 180
gccctgatgc ctggaaaaat aaggaaggga aagcaggagg ggaggacaag gaaaaaaact 240
cccagaatcc agggcctgga ggcctcgggg cccaactgca gccgccatgt tttagggcta 300
ggccaagagc agctcgtttg ctttcccagc ttaacttacc acattggccc tttcctgcca 360
tgattaatca cgtgaccgcg tttgtgcaaa ggcatcccgg cagagggggc cgggtgggctg 420
tgtacagtct cagcttcctt taaccaatg aatggagctc aggcaacctg ctttgaagct 480
ttattccgca gtccgctaag aggattcctg gtgggttttg tgcattcctt acttgtcagc 540
tgtagaagac ttcagaaaac cagtcctgag aaagaaaaaa ttgcaactta aaaaaaattg 600
cactaaaata attagaagga ggcttgtagt ggtttaactt gaagaaggct gcttgttaaa 660
catgaacagc agcacgactg ccatgtacag tgggacaggt ggtgcactgc acaaccccgg 720
ggggcaccat tcatcatgat gtaaatgaca tcaccgacat tgtgcaaggc agtggctttg 780
agtggcagtg atgttgaca gatgagcagg ccctggtcctt gaaaaaagtg accttcctag 840
ggagcagatg tcctagctat tagagagctc agacagttgc ttctcttctg aaatcctcct 900
gtaaatctga acattagcat cagggtctaa gaggaggtag gagataggag agaacctgtg 960
ggttaagggc agagttttgt gacaacatcc atccaagta gaactgtcag gacctaggtt 1020
gctttctcca ataactagat gtgaatgaat tttagggaga gctggaaaag cagcttctac 1080
aagcaaaccg gattctggag gctttcggca acgcaaaaac agtgaagaac gacaactcct 1140

cacgattcgg caaatcattc cgcattcaact tcgacgtcac gggttacatc gtgggagcca 1200
acattgagac ctatctgcta gaaaaatcac gggcaattcg ccaagccaga gacgagagga 1260
cattccacat cttttactac atgattgctg gagccaagga gaagatgaga agtgacttgc 1320
ttttggaggg cttcaacaac tacaccttcc tctccaatgg ctttgtgccc atcccagcag 1380
cccaggatga tgagatgttc caggaaaccg tggaggccat ggcaatcatg ggtttcagcg 1440
aggaggagca gctatccata ttgaaggtgg tatcatcggt cctgcagctt ggaaatatcg 1500
tcttcaagaa ggaaagaaac acagaccagg cgtccatgcc agataacaca gctgctcaga 1560
aagtttgcca cctcatggga attaatgtga cagatttcac cagatccatc ctcactctc 1620
gtatcaaggt tgggcgagat gtggtacaga aagctcagac aaaagaacag gctgactttg 1680
ctgtagaggc tttggccaag gcaacatatg agcgcctttt ccgctggata ctcacccgcg 1740
tgaacaaagc cctggacaag acccatcggc aaggggcttc cttcctgggg atcctggata 1800
tagctggatt tgagatcttt gaggtgaact ctttcgagca gctgtgcac aactacacca 1860
acgagaagct gcagcagctc ttcaaccaca ccatgttcat cctggagcag gaggagtacc 1920
agcgcgaggg catcgagtgg aacttcacg actttgggct ggacctacag ccctgcacg 1980
agctcatcga gcgaccgaac aaccctccag gtgtgctggc cctgctggac gaggaatgct 2040
ggttcccaa agccacggac aagtctttcg tggagaagct gtgcacggag cagggcagcc 2100
acccaagtt ccagaagccc aagcagctca aggacaagac tgagttctcc atcatccatt 2160
atgccgggaa ggtggactat aatgcgagt cctggctgac caagaatatg gacccgctga 2220
atgacaacgt gacttcctg ctcaatgcct cctccgacaa gtttgtggcc gacctgtgga 2280
aggacgtgga ccgcatcgtg ggcctggacc agatggccaa gatgacggag agctcgctgc 2340
ccagcgcctc caagaccaag aagggcatgt tccgcacagt ggggcagctg tacaaggagc 2400
agctgggcaa gctgatgacc acgctacgca acaccacgcc caacttcgtg cgctgcatca 2460
tcccaacca cgagaagagg gtgaggcccg ccgcccagac cctggggctc ccagaagcca 2520
gggctgtccc aagcggtcac agcgtcccca gggcgccctc tgccccacc taccctgagg 2580
acccatttt ccatgtgggg aaggctatct gaatctcaga cccattcccc atccctggag 2640
gaaaaggagg aaggaggat gcatccagag acttttcagt tgtggagtgt ctgtgcaggt 2700
catccagcca ctcattcatt cattatccca ggaagtattc actgggctct gccctgtcct 2760
gggtgctggg gagcagtgtt agaaaaattg tagcccttcc ctgtgggttt ctcataatct 2820
ggtgcaggca tcttcagctt ggggcgattg tgcctctat atggacatgc tacagacatt 2880

tttggttgtc acaaccagga gggggctgtt agtcagcatc tagtgggtag gggccaggga 2940
 tgccctaagc attgtacaat gcacaggatg gtccctcaac ccccagcaca gaatccctac 3000
 aagatgccag tagtgctgag gttatgggag acacggggag aggtaaacat acagctgatg 3060
 atggtgatgg aatgtggtca gttaggagaa caccaaagag ccagggtcc tcccaacagcc 3120
 tcaggactca gagaaagctt ctggtgaact tgaacgttaa gaatgtgtgg ccatcaactt 3180
 ggtgacatgg aaggcagggt ggggcctagg ataagcaggg ggcctaggat aagcagaggg 3240
 cccaggctaa gcaagagtgt ggaggtgaga agtgaaggaa ctaggtgaga aaatgctaga 3300
 tagtgtccag gcgtgttgct cagcctgta atcccagcta ctcaggaggc tgagaaacaa 3360
 aaatctgttg aaccaggag gcggaggttg cagtgaactg agattgcacc acagcattcc 3420
 agcctgggca gcagagcgag actccatctt 3450

<210> 624

<211> 3444

<212> DNA

<213> Homo sapiens

<400> 624

gcactatgca ctgggctctg acaggactgg atggtaagct cccaagttgc ctttttctag 60
 ctgtgggact tcaggttggt ccctcaacct ctctgtgcct cagttgcctc actgataaga 120
 ttgagataac aacagttcct acctgggacg attttttttc tttcctgttt ttttggtttt 180
 tgtttttgtt gttttttatt tttttgagat ggagtctcac tcttgttgcc caggctgggg 240
 tgcagtggct cgatattggc tcaactacaac ctccacctcc tgggttcaag caattctcct 300
 gcctcagcct cttgagtagc tgggattaca ggcacccacc accatgccca gctagttttt 360
 gtatttttag tagagacggg gtttcacat attggccagg ctggtcttga actcctgacc 420
 tcaggtgatc cggcgcctc agcctcccaa agtgctagga ttacaggcgt gagccactgt 480
 gcctggccga ttttttttc ctttcaatca ctttttttat aactacttat tgtgtgccag 540
 aactgtgct aggttttagg gaatcctgct ctcgtggagg tgacattctg tgaggttggc 600
 aggataatga agaggaacac aattctcagc acagagaaaa gttctgctca actggtgcac 660

cccatttatt ctagtctttt ccagggcaga gtcacccttt ccccaacccc cacctttcag 720
ctctgtggct ggggaaacag cccccacccc aaccaccac atcccttgga acaccctagg 780
gcctggaggc gctggggccc tttcagaaaa acaccctgcc aagaatgcat cccccgcca 840
gggcgccgac caaggaaaac agagggcctg aggagggaga tcagacaggc cctcaggcca 900
ggccattgga ggggcaggcg cagcaggaaa gccgagtcag gcaccaggtg aaatatgacc 960
tccaaagcat ccataggcat ttcttgtata aacaccccag tccagacagg aagtggggct 1020
gggggaactc gagggggatg tggccccaca ggacccccca gaggcagaca gatggacagg 1080
aaagcggggg aggaagaggt cagtggagaa aaacaaagag ggtgtgggat gtggagagaa 1140
gagagtgtg ctggggagaa ggaacagccc ataatactcc gctctcatal agagagaggc 1200
ttccatttgc ttctcatcat ccaagaggta cagaatcacc agacagttgg ggaaactgag 1260
gctgcaagaa gcaatgaggc cagcatcctg tgactgttta tcactgttg cccccgaggg 1320
tcctgcccag aggcactctg gaatgttctg tgaagaattg ttgtcatga ccttctgag 1380
acccacagt gggttggtgg ccaagctggg gcatagatct gggtttcaa tgggtgtctt 1440
aggccccagg atgacctca gagggccagc gcattcctaa ggctctgccg cagctcctgc 1500
tgacagagcg gggtcagcct gaaatcacc caggcctcac gacacagagt cactctgtat 1560
agtggggact ccaccggca ccttcagtc ccagagtgt ggactgagcc tggcagtccc 1620
cactggacag atgggaaggc tggggaccca ggaaagcatg caatttacc aaagtcacac 1680
agtgagttag tgggtgggatc agaaccatg tccttctcaa gtcagtggaa aagtctgttt 1740
gtttgtttgt ttgtttgttt cccaaaccac ggtagccaga gactgcagag ttggcccta 1800
cctttcagag tctgtatccc atggcctgag ctttaaggga gatgatacca gggctgggcc 1860
acctctggag ggcttcgagg ggacatgctc aggattgact cctaggcaat gggcttattc 1920
attcattcat tcattcattc attttagaga cagggtatca ctctgtcacc caggctggag 1980
tgcagtggca tgatcatggc ctactgcagc ctcaaactcc tgggctcagg caatcttccc 2040
atctgtctca gtctccagag tagctgggac tacaggcatg tgccactacg cctggctata 2100
ttcaattttt tttttttgt agagaaggca tctcgttata ttggccaggc tgggtctcaa 2160
ctcctgggct caagccatca tcttgccctg gcctctgaag agactgggac tacaagtgtg 2220
tgtcacaaca ccagggttgg gcggttttaa taaggggaga ggagaaagag actgagcaca 2280
ttccccagcc cttcaggagg cagggggttt ccggagggtc ccgggaccg cctcaacttc 2340
cacccaaagt gggaaggag aaatggcccc gtccttaacc gagggaccag cccacatcct 2400

tgccgccagt catgatgggg tgggtgccgc cccattgaac ttcacggatg ccctaccctc 2460
 ttccccaccc tgcccttctc actccagggtt tggctccttg aagccagggtt tccaccgcac 2520
 acccgaggcc ccgccccctc tccccagctg gccccgcccc tcgaagccct gccctcatct 2580
 ctgccggccc cacctccgcg ccccgccag gctcaccttg gtctccgcca gttgtcgctt 2640
 gagcagctgc agcgcttcgg tgtgttcccg ctgctgtct tgaagggcct gaagttggtc 2700
 cttcagctcc ctctgaaaca cacacagggc cgggatgggg gcagggggcca tgcctggccc 2760
 aggcattcag ccctgaccac tgccaggcgc tgggggtag cctgggtctc gtccccaacc 2820
 tccaacactt gcctcccgtc acagttcaac caccagcaag tcctgtagag tctgtctcct 2880
 aaacacctcc agaaccgctc cgtatctttc acctgcatct ttgcaacaac ctctctctct 2940
 ttggccaccc tagaggcttc tgtgacaatc gacttccaca tacacactct ctgggtcccc 3000
 acacttggcc ctggatcccc gcttagaatt aaggcagggg tctccaaccc ccaggccaca 3060
 ggtgggtatt ggtccatagc ttgttaggaa cctggacgca cagcaggaga tgaacagtgg 3120
 tggggagggg caaacctct gtatttgcag ccgtcctca tcgctggcat taccacctga 3180
 ctccacctcc tgttgatca gtggtggcat tagattctca caggagtgtg aactgcacat 3240
 gggagggatc taggttgcct gctccttatg agaataat gcctgatgat cactcactgt 3300
 cttccgtcac cccagatgg gactgtctag ctgcggaaaa acaagctcag ggctcccact 3360
 gatcctacat catgttagt tgtgtaatta ttccattata tattacaatg aaataataat 3420
 agaaataaag tgcacaataa atgt 3444

<210> 625

<211> 4525

<212> DNA

<213> Homo sapiens

<400> 625

gtttttgggtg gattagagtc catgattaaa gaagcaagac gaactgctga gcaagcttca 60
 aaaccgaaag tacctcaaaa atctgaaaaa gaaaatgata ctctgcgaac accggaggct 120
 ttgcctgaag aaaagaagat tgaatataga ttgttaaagg aagagattgc caaccgtgag 180

aaacagcgtt tgattaaatc agatcagctg aagacaagtt catcatcccc agcaaactct 240
gatgtggaat ttgatggtat tggtaggata gcaatgggta ctaagcaggt tacagatgca 300
gaatcaaaac tgaaaaaaca taggattctc ttgatgaaag atgaatctgt tttaaagaat 360
ttagtgcaac aagaagctaa gaagaaagaa tctgttagaa atgctgaagc aaagattaca 420
aaacttacag aacagcttca agcaactgaa aaaattctta atgttaacag aatgtttttg 480
aagaagcttc aggaacaaat tcacagagtt caacagcgtg ttacaattaa gaaagctttg 540
actctaaaat atggagaaga gcttgctcgg gcaaaggcag tggccagtaa agaaatagga 600
aaacgtaaac tggaacaaga tcgctttggg ccaaacaaaa tgatgagact ggacagttct 660
ccagtatcaa gtccaagaaa gcattcagca gaactaattg ctatggagaa aagacggtta 720
caaaagctag aatatgaata tgccctgaaa attcaaaaat taaaagaagc ccgtgccctt 780
aaagcaaagg aacaacaaaa tatctctcca gttgtggaag aggaaccga attttcttta 840
cctcaaccct cacttcatga tctgacacaa gataaattaa ccctggacac tgaagaaaat 900
gatgttgatg atgaaatfff gtctgggtca agcagagagc gaagaagatc ttttttagaa 960
tccaattatt ttactaaacc taaccttaag cacttgata ctgctaaca agaatgcata 1020
aacaactta ataaaaatac tgtagaaaaa ccagaacttt ttctagggtt aaaaattggt 1080
gaattgcaaa aattgtattc aaaagctgac agcctaaaac agctgatttt aaaaaccacc 1140
acaggcatta cagagaaggt tttgcatggt caggagattt ctgtagatgt ggattttgtc 1200
acagcacaaa gtaaaacaat ggaagtgaag ccatgtcctt ttagacccta ccatagtcct 1260
cttctagttt ttaagtccta cagatttagt ccatattatc gaaccaagga aaaacttccc 1320
ctgagctcag tatcatacag taatatgatt gaaccggatc agtgtttctg ccgttttgat 1380
ttaacaggaa catgtaatga tgatgattgt caatggcagc atatacaaga ctatacatt 1440
agccgaaaac agttattcca ggacattctg tcatataatc tgtctttgat tggttgtgca 1500
gagacaagta ctaatgaaga aattactgct tcagcagaaa aatatgttga gaaacttttt 1560
ggagtaaca aagatcgaat gtcaatggac cagatggctg ttctccttgt tagcaatatc 1620
aatgaaagta aaggtcatac tcctccattt acaacctaca aagataaaaag aaagtggaag 1680
ccaaagtttt ggagaaaacc tatttcagat aatagcttca gtagtgatga ggaacagtct 1740
acaggaccaa ttaagtatgc tttccagcca gagaaccaa taaatgttcc agctctggat 1800
acagttgtca ctccagatga tgtcagatac ttacaaatg agactgatga catcgctaata 1860
ttagaagcaa gtgtgcttga aaatccttct catgtacaac tttggctcaa gcttgctgac 1920

aagtacttga atcaaaatga gggggagtg cagaatcct tggattctgc tttaaagtgt 1980
ctggcgcgag cattggaaaa taacaaagac aatccagaaa ttgggtgcca ttacctcaga 2040
ttgttctcaa aaagaggaac caaggacgag gtgcaggaaa tgtgtgaaac agctgttgaa 2100
tatgctccag attatcaaag cttttggact tttctacacc tagaaagtac ctttgaagaa 2160
aaggattacg tatgtgagag aatgttggag tttctgatgg gagcagccaa gcaggaaaca 2220
tccaatattt tgtcctttca gcttttagag gctcttttgt ttagagttca gctgcacata 2280
tttactggaa gatgccaaag tgcactggca attttacaga atgcattgaa atctgctaata 2340
gatggaatag tagctgaata ccttaaaacc agtgatcgat gtttggcatg gttggcctac 2400
atacatctta ttgaattcaa cattctccct tcaaaatttt atgatccatc taatgataat 2460
ccttcaagaa ttgttaacac tgaatcattt gtaatgcat ggcaagctgt tcaagatgta 2520
aagactaatc ctgacatgtt gttagcagtt ttgaagatg cagtgaagc ttgcacagat 2580
gagagccttg ctgttgagga aagaatagag gcctgccttc cactttacac aaacatgatt 2640
gctctgcacc aactcctgga gaggtatgag gctgcaatgg agctttgtaa atctttattg 2700
gaatcatgtc ctattaactg ccagttgctg gaagctcttg ttgcattata ttgcaaaca 2760
aatcagcatg acaaagccag agcagtggtg ctactgcat ttgaaaaaa tcctcagaat 2820
gcagaggttt tttatcatat gtgcaaattc ttcacttac agaatcgagg cgataatctt 2880
cttccatttt tgcggaaatt tattgcatcc ttctttaaac cggggtttga gaagtataat 2940
aacttggatc tgtttcggtg tctcttaaat attccaggac caattgacat tccatctcgt 3000
ttatgtaaag ggaattttga tgatgatatg tttaccacc aagttcctta tttgtggctg 3060
atttactgcc tttgtcatcc tcttcaatca agtattaaag aaacagtgga ggcatatgag 3120
gcagcattag ggggtggctat gagatgtgat atagtacaga agatatggat ggattatctt 3180
gtctttgcaa ataatagagc tgctggatcc agaaacaaag ttcaagaatt caaatttttt 3240
actgatttag tgaatagatg tttggttaca gtccctgccc gataccatc tcttttagc 3300
agtgtgatt actggtccaa ctatgaattt cataataggg ttattttctt ttatttgagc 3360
tgtgttccaa agaccagca ttccaaaacc ttggaacggt tttgttcagt tatgccagct 3420
aattctggac ttgcattgag gttacttcaa catgaatggg aagaaagcaa tgttcagatt 3480
ctgaaacttc aagccaagat gtttacatat aatatccaa catgcctggc cacctggaaa 3540
atagccattg ctgctgagat tgttctaaag ggacaaagag aggtccaccg tttatatcag 3600
agagccttac agaagttacc tctttgtgca tcaactgtga aagatcaact cttgtttgaa 3660

gcatcagaag gaggtaaaac tgataacctg agaaaactag tttccaagtg ccaagagatt 3720
 ggagtcagcc taaatgagct cttaaattta aacagtaaca aaacagaaaag caagaatcac 3780
 tgaacactgg gtgcagtcag ttctaagtcc ttataataat tgccaaaatt atttgaatga 3840
 ttcttcaaga ttaggctgat ccctggctaa ggtctgtgta aggcagacaa gcgttattga 3900
 tcatatcaag ttccctacaa tatectgtcc tcaaaaccgg aagcaatgaa catgatcctc 3960
 ttcggttggg taaatgaact tcctgtttgg cctgcttcta ggccctgcca gattctcata 4020
 acatcatata cgtaagtata gttcctcaaa gtgactgaca tttattttta ttttgctttg 4080
 tttttttttt attttctccc ccattccttt attttgtgtt attcctgact cacttgacac 4140
 tctctgatgc ctgagagatt cctgtttggg atttaatatc cagggctgtg tttacagtaa 4200
 aaaaagcagg cagtcctttt tagtttttcc tttttaaatt tttttgagat tcttcatttc 4260
 aggatttaaa actatagcag tccatcttaa ggaaagtgtg actgccatgg ccacaagtct 4320
 gctagttgca cttgaatgct ctatcagggt tgtttattac cctttctacg ttctgggctc 4380
 cttgccgaga ctgtttaact tgaagattaa agaaactatt gcaaatgcca gtgcatcaga 4440
 acctaagagt ggtcaaatat tatgtgcaat ttttttgtaa agaaatttta atttataata 4500
 aagttaaca gtttaaagaa cagtt 4525

<210> 626

<211> 3755

<212> DNA

<213> Homo sapiens

<400> 626

agaggtatcc acgagggagg aggtggattg tgacacctgg gagaatgaag gcggagatgg 60
 gtgaattgct aattcagacc ttggagaaga ggcagacgga tccagggggg ctccatcaag 120
 gaaggagcgg tggcgacac taagaagtgt aaatagggaa ggggcgcggc ctctgtgtgg 180
 tcagggcgga cccaggggt cccggactca ccttccgcat aatcttccgg ccatagaaga 240
 gcactttgtc cctcttccgg aaccgatacc gggggccatc cggggctggg gtttctgggg 300
 ataggtgggg acaggggcac tccgagctct gtgcagactc caccctgcca gagctgggg 360

accgcaaca gacgccagca aatccccatc tctgccgcct cgggacccgg gcatttgggc 420
ccccaccat acagcctccc aagagggggcc cctcgggtgc tcaattggca ctgcagcct 480
ccgcaccacc aggaggatga gcacggccgt gaccaccacc gccactccgg cccgatcat 540
cacgccaagc acctgaggga cgaacggcac tggctgcgca ccgcaaatcc gtcccgccga 600
gccttccccg ggcgccagga cgtcctggaa cccatccctc tccgccacct tcgccccga 660
ggagttcgta gccagcccgt gactcgatgt ccccatctgc agaattgggc agtgctgctc 720
cctccccggg ggcgcgactc ttccctgagg cccggcggcc cgcagtgcac gccgggaaac 780
gtagttccgc ccgagcggac gcagcgcgtt atcgccagac cacgtaatgc gcgctgagca 840
cgccgggagt tgtagtctc ttggcgcccc acgccggcac ctaccgggc tccgccccac 900
cccttaccat tccagtttgc agcggagcct ccatcggttg attccagctg gacggccgat 960
ctggtagccc ggagtcctgg gaaatcaagg agtcgaagga acccgtgcaa gtcgtcaatc 1020
tgggcccacc tctcccctgc ctcaagccct gccccagct caagccctgc cctctggggt 1080
ggcgggggaa gcgtctccag ctgccagggg cgaggctaga ggggcgctgc gggactaagg 1140
gatggagcaa accgacctct cggccctggc caggagatga ggcgggtccc cggcttcctg 1200
ctcccttcgc ctacgcgtag ggcctaccag acgcccgcct gtccaacccc accccggggc 1260
caaaggccga cctggtacct actgtcagca gcctgcaggc aggtccccac agggcacggt 1320
cctctgcacc tgggtgacttc ctcccgggtc actgccctct gcagggttga tcaagcctga 1380
ccaccccacc cccagggccg caccacctac tccgtcgaag actgaatgcc ccaccccagg 1440
aaaacgggcc cgcaaaccgt ggggtccggg agtgggcacc tagatactcg gctcccgacg 1500
caagcctgcc ccggggaaga cccaggagct gggaggcacg ggagtactgc cggggcatcc 1560
gcggaaggcg tctgataccc acgtttcaga agagtccctg gatgcttggg gtggcgtggg 1620
cttgcaaggc gctgcgggtt ttgcccggg atttactatc acgtagtagt gaagttatgg 1680
gggctctatg gcacagagca tcaactgggac tccgggaccg atggtggcgc cattgctggg 1740
aggcgtaacc agagacgctg ggattagtgg gtggggatgc ggggtcactg gaaagttact 1800
gagattctga ggattacaat actactgctg ggaaaaccag gaggtgggtg ggcacattcc 1860
tggggtgctt atgagagcgg gcctggggag ggcgtccggg ctccttggaa gatactgaga 1920
gatgctggaa tattactggg atttttctgg gaagctgagg atgtttctga catcgctaga 1980
atattaatgg aaattcgggg gccgggagat aggaatcccg gagactccga gtcgttactt 2040
ggaaaattcc tgggtggccg gtcctcttcc acctcagggc acagctggct accggtgtgg 2100

aaacacctgc cgagacgtgg ggggtatggg aacatcagaa agtctagagt taacaagaat 2160
cggaggacag atcgtgggaa agcggaggct cgctaacgac cctcgaaggg acaccctgc 2220
gaggctaacg gaaaccaga ctcaccagg ggccgcagcc ggggtccact ccgcgccaac 2280
accgctagcg ttccgcccgg ctccgcaggc gcggccccct taaattattc actcctagtc 2340
gcaccgcagt ccctcccgc cctcccaccc ctctcccccg cgccatgctt ggaaggccga 2400
ctgaggccgc catgctgagt gtggccgcgc cttaaagggc ctcacaccgc ttaacgcaag 2460
gactgctcct .cccgctaaaa atgaaaacga cacatttatt ttccctttta ttcaacaccc 2520
tccccacca gtctccccgc cccaagggt ccgacacgaa aggtccaggc cctcctcggg 2580
cgcgacaggg agccgatacct taaaagcaaa ccctacaaat aaataagcgg ggtcgggggc 2640
gggggtctct gcagtccagg gcctacggtc caacggcagt cgggtcgaat caattcacca 2700
gcagcgaatg ctctccgag gggtccttg aggaaggaag cagggaagag gggcgtcagt 2760
tttctctggc tcgtccctt ttccccattc cctaacctcc aatctgaatg tgccagaccc 2820
gggactcgaa cttccgcag cagcagagaa ggctgcaggc cgagccgctc ccgcggcgga 2880
acttgccgga ggtggggctg tcctggcact gtgcgatgta ggcctgcagc tcgtctcct 2940
ctgcgcctgc gccgccggga tgctggggag agaagccggg aggctcagcc tgaaagtggc 3000
tcccaacctc caaggccctt gaagtccgc ctcccccca gccatatctg catcgcttcc 3060
cacctccggg ctttgcact tgctgggcct gctccaccg ttgttcaca gtttgcttgc 3120
acagagggac cttccctgac ccctgaacct ggatacaagc tgtgtctttg ccagtctgtg 3180
tctttgcctt ctgctgtagg tccagacct acagacctag agccagggt gacatgacct 3240
cgatgctcag aaaccatcta ttgagtgagc tggatgcacg ctgagcacag cagtgggagc 3300
agggcctgag actgcccacc tgagtggatg catgtgtgtg atgtctacgt gctaaggcaa 3360
gacaggaagt agttccaagg gcctgagtca atgtgtctgt gggacagctg aatccatgca 3420
tggggaaaag ggggtgtacc catctgccgg tgacattgga tgtggcaggg tcccagccaa 3480
ggcttccttc ctctactcg gcctcatgga ggggccatct tttctccaag ttttttcagg 3540
ctactagacc tttgctttag ctattccttc ccctcgggtgc actgcccctg ggctcccac 3600
tcttcagtct agaggcgatg gaagtattca atatctatgc tgtccaatat ggcagccacc 3660
agccacactg gcttttgagc actggataca ggatgggtgca agtcagaggc taaatttgca 3720
attgtacttc attgaatta aaatttttaa aaaat 3755

<210> 627

<211> 3684

<212> DNA

<213> Homo sapiens

<400> 627

agagctgggg	ttcatgggca	gagtgggtgag	cgacggagaa	ctgggggttcg	tgggcagagt	60
ggtgagcgac	ggagaactgg	ggttcgtggg	cagagtgggtg	agcgacggag	aactgggggtt	120
cgtgggcaga	gtggtgagtg	acggagaact	gggggttcgtg	agcagagtgg	tgagcgacgc	180
agagctgggg	ttcgtgggca	gagtgggtgag	cgacggagaa	ctggagttcg	tgggcagagt	240
ggtgagcgac	gcagagctgg	ggttcgtggg	cagagtgggtg	agcgacggag	aactgggggtt	300
cgtgggcaga	gtggtgagcg	acgcagagct	gggggttcgtg	ggcagagtgg	tgagcgacgg	360
agaactgggg	ttcgtgggca	gagtgggttgg	ctgccccact	gtcagcctgt	tctgaaagta	420
ggaatgacct	tcagctgagc	tgagatgttg	ctgggtggaga	ctctaagact	gtggattctg	480
actccctggg	ctcaggaagg	acggtgctgg	gaacaagggtg	cagacaaggc	acgacgaagc	540
tggagtgcct	cataccacct	ccatgaaagc	gacgaaggac	tcccagaacc	attcctgggg	600
gcccgtggga	acgaggactt	tgggggcaca	aggacgagct	gaagaagtct	tcctgattgt	660
ggttgtcaga	gggaggacat	ggcatcgtgg	tgggccagag	tatcggcctc	aacaccacct	720
acttttcagg	ctgcagtctc	caccgtggcc	gctgtgtgca	ttggaggggca	cttggcagca	780
tccccagcct	cccactaga	aaaccagatg	ccaggagcat	atgcgccct	cctcaagggtg	840
caaccaccag	aaacgacgcc	agacattgcc	aatgtccct	tgagggtggg	gacaaatgcc	900
cctcatcccc	cttgaggact	gcagctggaa	ctcaatgaag	agcagcgaaa	ggggccacaa	960
gccaaggcct	ctgccgcagc	atctaacagc	tggaaaaggc	aaagatacgg	gatctcctgg	1020
agcctcgaac	aggagccagc	tctgcagaca	ccttgattgc	agcccagcaa	ggccccatgtc	1080
aggcctctgg	cctccataac	ttgataataa	agttgtgttt	tagttctttg	ttacaggagc	1140
aatatggaga	gggactaatg	aactgccatt	gtattaaacc	actggcaatc	agagttgttt	1200
gataaagcag	tcaagtcaac	ctaagtaaaa	cacttaagga	ccaagaaata	aagtcctcac	1260
ttgaggatag	tgagatctga	gagcagtaaa	gccacttcct	tctcgtgaga	ccgaccctc	1320

ttgcagacct gcctctggcc tggcccatg gagtggcagg ccccggtcct ccgctcttcg 1380
ggtcacaggt ggcccagcag gctctgcgca cagcatttcg gcagcacagc aatgcctaac 1440
ttaatactca ctccgggaac aagccagctg caagctgtca acgctaagtc cccctaattgc 1500
tttaattggg acttactcta gtaagtcat ttaaaagtcc ccacctctgc cagatgcaca 1560
gtgaagctga cccgacaaga gggcctgacg gtggcagagc aatgtgataa ttaatgcgtc 1620
ctgctttcct ctgcttgaat taatgttttc atgtcactta gacatcactc ctggaaacct 1680
ttctggtttt cagtaatcag cagtctctca tcccagaacc cagtagatga tcaataagtg 1740
gttgccgagt gaacgaatgg ctgagtcaga gatctcgaag ggtcagattt cacttggttc 1800
aaaccccaac cagtctctga gaaactgagc caggaggaggcc tcaggaggcc tcgagacgcc 1860
agggtacgag ctaactgtgg ctgggaaggt tgtgtaaaga ggaatacaaa gcagcctggg 1920
catcccaaat gctgccacag acgtgtcaga gtggctagga gccatggcct gcacccaggc 1980
aggggccact cccagctgt gggagcagaa gggggcccagc acagccggcc gcggagcccg 2040
caggagcccc ggtgctcggg aggagccgga cgccgactcc agcagcgcag acgccgccgg 2100
ggaggcccgt tgaggagcgc gcagctgagt cccggtagag gaggcgccgg cctggagagg 2160
ctggggggcgg atccgctgga ccaggcgggg tagcgaaggg tggagttgca cagagcggcc 2220
tcgagtccgg actggggaag gctcagacag ggggtggaac aaaggccaga aaggaggcgg 2280
gggtcagacc ggggctggat catgaaggcg gcagagagct cggaggggagc ccaacaaggc 2340
cgtgctgcgg cccggttttc cttccggtgc tgaggatggc ggcggcctgg ttttccttc 2400
gggtgctgagg atggcgccgg cctggttttc cttccggtgc tgaggatggc ggcagcccg 2460
ggacggtgct gaggatggcg gcggccatgg aagggtgctc ctgcttctgc gcggatccag 2520
gccttcggga tctcgccctc tgcagtgcgg agaactcact ggacggagac gagagaggcg 2580
gcggcggctg cacagctggt gcgtggggac tggggggcgg gtgagcgtg tccttggtg 2640
gggaggaagc gcagccccg gaagcccgc tggggctgca gggagaaagg agggcgcccc 2700
agagccaagg ctgcccgtg gtccctgcga ccggggcccc gagaaagtgc gggaaggaga 2760
gagaaggctg gtggccgcct gcctccaggg cgggcctccg agcagtgcc tgtcccagcc 2820
acagccttgc ttcttttgat cctcatcacg accgctctcc gggccaggcc gtgggtgagg 2880
ccccaggcc ttcaggggag aagccggggt ctccagagag aggtaacaga gtgagaacgg 2940
ccgtgggtag cgcgcccctc ggccccgcag ctctccacag gcctctggcg agctcagctg 3000
acctgcccc aactgaggt ctctgctcag ctaccacctg ctctgagaag ctttctctgc 3060

cagggtgact cattaccctg atttgccagg actgagtggg ttcctggagc ggcctgggag 3120
 ccggcggcgg tggtggcttt cctgagccct gtttgtctaa tgtaggcccg gttcgactg 3180
 ttcattcact ctgctcctca gttactttac ggcaattaac accaatctgt tctcaaaacg 3240
 tgaggtcctc ttgctcaggg ctgtgttcct agcacgcggc ccttgcctga cacacggctg 3300
 acattcagcg cacatttaaa cgagtagatc aactgctcca tcttcccca gaagctctgt 3360
 ctgtccctcc acaacttggc tcatgccatc tcttcataa gcgccgtgtg ctcttctctc 3420
 tcagaaaaaa actatttggt tcttgacagc tcagctcaaa tatcagcttc tctcgacccc 3480
 aggcattgagc gtgggtcccg aaaccctggt gccctccaca gtgtgtgttc agtaaagac 3540
 tctacgttta tccctgtagc tgccagtgtt atcaactttg gcctatgttt tctgaattat 3600
 ttttgaatct ttattttgta atccaatcta ttagtgaccc ataacaggcc gtgtcatcca 3660
 caattaaata aatgtgcact ctct 3684

<210> 628

<211> 3596

<212> DNA

<213> Homo sapiens

<400> 628

atgagcaciaa gggcagctctg tgtgtgggat cccttcccat tcacgctcca ccctgctctt 60
 gaccatggtg aacttgtatg gattacatca atatgctacg tgccctgtgg attctggctg 120
 gatatgggca atggcgagtt ccagcaggaa actggaggga cagaagagag cgaggtcaga 180
 gaatttaatc tcttgcctcc ctccctatga ggtcacccca gctggtgact gtgaccctgg 240
 atggaagggtg attgtctcaa ggtggtctgc tcttcgcaac tctccttctt tctggtaacc 300
 tcgcccagca tccctctagg tcgagggagg ggtgggtgtt gcctcattgc ttttaacctg 360
 gattcctgta ccatccctca tggttctctc ctacaaacct ttgcaaagaa tccctcccca 420
 cagcagcaga attttagtgc atgctctctg tgttcttcta aggtcctctt aggggaataga 480
 caattctgta ggcactttca ttgcaaacag aatcccagtg aagaaatggt agcgtcagtc 540
 caagatacta atcaacatgg caatcttcac tacaggatga gaactgtttt ccctttgccc 600

caggtaggac ataggccgcc ttagccttcc ctgcctcagg tggggaaggg gctgtggctg 660
gccctgctct tccccacctc acctgttccc tgcggttttc atttctgcct agcctgagat 720
ggggaaagtg ggggatagga cagttttcac tttgatatgg tttggctctg tgttcccacc 780
caaatctcat cttgaattgc aatctccatg tgttgaggga ggggcgtggg gggagtaatt 840
ggatcatggg ggcagttccc ccaggctggt ctcatgatag tgagttctca cgagatctgg 900
tggttttaaa gtgtggcacc tccccttggc ttgctctctc tctctcctgc tgccacgtaa 960
gacgtgcttt gcttcccctt tgtcttccgc catgattgca agtttctga ggcctcccca 1020
agccatgcag aactgtgagt cagttaaacc tctttccttt acaagttacc cagtctcaag 1080
tagttcttta tagcagcatg agaacggact aatacacact tgaacttggt ctaactttgt 1140
tttgcaactct taggtaagat ctagttagac ctgaccttct ctcctagtcc cctcggggac 1200
tccctgcaca tcccaaatec caggtgcatg cccatgaccc actgggcaag gcctcatctc 1260
aggctggctt tccctctgcc ctggttctcc aggagtgtg ttcacacttg actcaccact 1320
ggggagtctt cgtgcttcca ggttagctcc ttaggcagaa attaagactc taggtgacat 1380
cctgccagca aagttccgat ctggctgaca acctaccttg tttgcctttg ttgtgctacc 1440
aaaacacacg cagcttgacg ctctgcagg tcacctgtc cccaagtgcc tgggaaccaa 1500
caggtatgta agtgtctcct caaagtctct tatcagccaa attgaggcag ggaggcagat 1560
acctcattt tctctattgg ggagggggccc atctccaaag agatccttcc agtgaagtca 1620
tcttggtcac gattttctcc cttcctttat attcccaaag tgtgtgagag aggtgtttta 1680
gagaaggagg aaatcagcta ggcattggtg cccatgcctg taatcccagc actttgggag 1740
gtcgaggtgg gtggattacc tgaggtcagg agttcaagac cagcctggtc aacatggtaa 1800
agccccgtct ctactaaaaa tacaaagatt agctgggtgt ggtggcacgt gcctgtagtc 1860
ccagctgctc gggaggctga ggtgggagaa tcccttgaac ctgggaggtg gaggttgacg 1920
tgagctgaga tcatgtcact gcactccagc ctgagtgaca gagtgagact ccaaaaaaaaa 1980
aaaaaaaaaa taataagcag gaggaataca tctctcctaa atctactctg aagattcccc 2040
caggaaggag ggcaatctct ctcacacaca ctttgatata tcatttttac ttcattttgg 2100
agtcttagtg gaaacttcaa ttttaacata ctgtaacaga ttgctacata catttttggg 2160
tgctagtaaa aacaaaacaa caattgaaac tggcttccac aataactgga actggttggc 2220
tcacacaact ggaaggatct agagattggg tgctgtttct ctgtgattcc cttactcaga 2280
ttgggcaaaa ttgaacttga caaggccaag tttttattct gagccaatcc ctattgccag 2340

gggagcagca cgggtcgcca ggggtaggtg ccatccctgc cccaatcgct atggaagagt 2400
catggtcatc ctgattgac ggggttaaacc tctagggact cattcccgga actggtggtg 2460
agagtgggtg agatggactc aaccttatcc aaatctccta gttatataac taggaagtac 2520
ggtgagaatg tagtttagga agcaaccaca accacaaact acgaggtcat ctttttcaag 2580
catctcattt tgtcctccca taaatatgat gatcttctgg ttagctgagg ttttgttttg 2640
ttttttatct ttttgagaca ggatctcatt ctgtcaccca ggctggagtg caatagcatg 2700
gtcacagctt actgcagcct cgacctccca agcccaaccc atcctcctgc ctcagcctca 2760
caagcagctg ggactacagg ggcgccaccac catgcctggc taattttgaa atctttgtag 2820
agacggggtc tctctatgtt gcccagggtt tctctgaact cctggggtca ggtgactctc 2880
tcgcttcagc ctcccaaagt gccagggttg caggcatgag ccaccatggc tagccttggt 2940
tttatattca taatattaat acaaacacac ttgtgcctat agaggaattc attttgcac 3000
agccaacttc tccatgatgt gcaggaggca tcatgcctac aaaccatgat attctgaagg 3060
accatgaaaa tgtttcaatt tttttaatca agagcaataa atgaacttac aggtctaaaa 3120
atgttttatg atatcatttt aatataatca tcttcatagc aatgtgacta taaaatgaaa 3180
tttttattaa ctgttttatg gagagaaagg cctactaagg caaaaatagg gccctgaaa 3240
gtcaccacgc agctcggcct tgtattcctt ctttcctggg gcacccatc atagaattta 3300
agtattgaca ataggaaccc aaagtctgag acaagatgat cctttgaatc cccaagtaac 3360
tagccactta cttaaagaac tcatgtggat tgtatcaatg ttgtaccaga gatattatgc 3420
ttgaaaacaa cagtccagga aggtcaggct tggctctaca aaagtagaag gggcaaagta 3480
tggtgaggca tgcctgtagt tccagctact tgggaggctg aggcaggagg atcgcttgag 3540
gccaggagtt cgagaccagc ctgggcaaca tactgaaaca tcctctctga aaaaat 3596

<210> 629

<211> 3646

<212> DNA

<213> Homo sapiens

<400> 629

aaaaacagca ggttgcata cagttttctca gtgaagaggt tcaaaaaagg tgagatgcta 60
ttgctttgtg aatttataaa ggaaagaata atttaactgc tcagaattac atgtccggtc 120
actgcttttt aatttaaaaa ataataagagc atcattagta atcttgTTTT ctctttgata 180
cataggtaaa ggggtgtttt tgtctggatg cctaagggtga ttccaaggga ggggatggaa 240
gatatgtgac atcttccttg aaatttatat tgatatgcaa tgctttgtca tttaaaacct 300
aagctaattg tttctacaat ccataactct gagtttatct ttttggaac atagaagggg 360
atgacattga agatgaaatg gatacagcaa ttgctgaatg acagtttgcc caaattagtg 420
cagttaaaaat atgctgacgc ccctgcatgg ccaggaagac ttctgctcca tgcacacaag 480
caccaagtat caagcgacca ccaacacatt cccattcctt taggcctcca tagctttgct 540
tttgctttct gtttcctgaa ctaaaaaaaaa aaaaaaaagt gtagattgcc agccttcctt 600
ttttcctgca cgctaattggc atgtagtgcc tccacccttc cctatagtga gattaatgac 660
ctgctctgta actcacattg tgctcttctc tctccctttc cttaccctt cccatccgc 720
ttcaactcct ggccatacag agaatgaaca gccttcctc gtttggttg acagaggaaa 780
gttttatattg acttttgaag gttcttccag gggaccagc cccctaacca tgggagctca 840
ggacactctc cctgttgag cagcatttac agaaacagtc aatgcctatt tcaaaggagc 900
agacccaagc aaatgtatcg ttaagattac cggagaaatg gtgttgcat ttcctgctgg 960
catcaccaga cactttgcca acaaccgctc cccagctgct ctgacttttc gggtgataaa 1020
tttcagcagg ttagaacacg tctgcca aaa ccccaactt ctctgctgtg ataatacaca 1080
aaatgatgcc aataccaagg aattctgggt aaacatgcca aatttgatga ctcacctaaa 1140
gaaagtgtct gaacaaaaac cccaggctac atattataac gttgacatgc tcaaatatca 1200
gggtgtctgcc cagggcattc agtccacacc tctgaacctg gcagtgaatt ggcgatgtga 1260
gccttcaagc actgacctgc gcatagatta caaatataat acagatgcaa tgacgactgc 1320
tgtggccctc aacaatgtgc agttcctggt ccccatcgac ggaggagtca ccaagctcca 1380
ggcagtgtc ccaccagcag tctggaatgc tgaacaacag agaatatgt ggaagattcc 1440
tgatatctct cagaagtcag aaaatggagg ggtgggttct ttgttgcaa gatttcagtt 1500
atctgaaggc ccaagcaaac cttctccatt gggtgtgagc ttcacaagtg aaggaagcac 1560
cctttctggc tgtgacattg aacttggttg agcagggtat cgattttcac tcatcaagaa 1620
aaggtttgct gcaggaaaat acttggcaga taactaatga aatcttatgc aaggatttgg 1680
aggattcata taatggagaa ctgatgtatg agaaacagat ttaattttg gtttgatgaa 1740

aacaaaccaa tatctgcact tgggatatat caggtggaaa gtcaatgact ttcattctgtg 1800
atttcctca cacactacca tgatgaccag tcctacagta ttacttcta ggtgtaatat 1860
tgtaaatggt tttaaatgt aattattgta ttgttaaatt gtactctcat tccagtaagg 1920
cagttagaca cttgagtttt agcattttac cattcctgaa atggatataa tttaaactgt 1980
ggatatgtaaa tttaatagta gtattgttga atggcacaat gcttacagag gtagattgca 2040
ttttgtcaat atataaaatt taaatataat attgatagct gtcataaagg ggggtgccaca 2100
tattaaagaa acttaagtgg aaccagaaga aaaagaaaca aacttacttt tcttcaatgc 2160
ttagtatgtt ttactctagt gctaaataaa aactctatct tcaaatgttt agtgggttaa 2220
attgagaaac tatttcagaa aaaaattcta aggttacagc atattcaaag aaaagcatta 2280
gttaccactt tttaaaaagc ttttttttca aactgcaaatt tcataaaaa tgcaaactgt 2340
gtaaacaggg cctcttattt ttataacttg tgtaaaaagg gaaagcaatt catattttaa 2400
gtttaagtat attaaattat aatcaagagt aaagaagatg ctgaagtctt aactacttgc 2460
ccctctctac agtttcgcaa atgtggggat tgctgaataa tcagtcagac taaaaccaa 2520
attgtgattt taagatttca agactttccg tagttgaact ggtaagaat ttttgcttag 2580
ttactctgaa tagatgatct tactcatcca gtatggggga atgatactc acgtcttctt 2640
ctttaccac aggaatcaaa acgctgagac tgagaatttt agggaaaaaa aagtccgctg 2700
tttagatcca gaaggagagt tttaatcatt gtttatatca ttgagaatg aaaaaataag 2760
cttcataaat gaaattctat tcacattact gtgtaataaa tttccttttg gatgattagg 2820
attcattgta taaaactgta aatctttgcc attcttggag aagcaaaagg agagtatatca 2880
aaaatgtatg tcgtttcatc gttgcaagggt ataataaaaa ctgtaattat tcaatctggc 2940
cctgccatat gaacatttag aaagacaaac ttcttcggga gtctcagttg taaaaccttc 3000
cctcattaat atctgaaaat gttagtcttc ctttaagtca tagaacttat ttaaacataa 3060
accaatttct attacagggt atgctattaa atagctgtaa ttattaagtt attattttta 3120
taattagttg ttaaatttca ttttacaccc actcaaattt aacaaagaat ctttagcccc 3180
tttaaatttt agaattaaat taaattttta aagttttact tctaaaatga gattgtgact 3240
ggcaattgtt tatagtgaat ctttttaaat taatctttgt actcctctat cagtgccttc 3300
taccaagaga atgtccaaaa tgatttgttt taccatggga aaattcttac tattcaacaa 3360
actctcagtt ggccccctac agcagtcctgg tgttgaagtt tctttgaacg aactaaatat 3420
actcatttta tgtaaaggta tccaatttga ttttgaaacc aaaatagaaa atgcaaaatt 3480

ctaaattcca tgaacatgg aatttatgac accaaaatca atggagagta agcagcagca 3540
aactgagaat tatccagcat atgaatataa caatgtgttt ttaagtaatc aattcattta 3600
aaaaattgaa tattaatata aagcatatta aaaacatgta aatatt 3646

<210> 630

<211> 3450

<212> DNA

<213> Homo sapiens

<400> 630

gagtggagaa gtgaagagtg tgatcctgga ggctgtctta tagaattgac aaccaattg 60
accattataa tgaccgggaa acagatTTTT ggaaacatta aagaagccat ttatcccttg 120
gctttgaatt ggtggagacg ccgaaaagct cggacaaact ctgagaagct gtatagtcga 180
tgggagcagg atcatgacct tgaaagtttt ggacccttg ggcttttcta tgagtactta 240
gaaacagtta ctcaatttgg atttgttaca ctatttgtgg cctcttttcc tttggctcct 300
cttcttgctc tcataaataa tattgtagag attcgagtgg atgcctggaa acttaccact 360
caatacagga gaactgtagc ttctaaagct catagcatag gtgtttggca agacattctt 420
tatggaatgg ctgtcctttc tgttgcaact aatgccttta ttgttgcat tacgtcagac 480
atcattcccc gtctagttaa ctactatgct tactcaacaa atgccacaca gcctatgaca 540
ggatatgtga ataatagcct gtcagtattc ctgatagctg attttccaaa ccacactgca 600
ccttcggaaa aacgagactt catcacttgc aggtacagag attacagata tcctcctgat 660
gacgagaata aatattttca taatatgcaa ttctggcatg tccttgctgc caagatgacc 720
ttcatcattg ttatggaaca tgttgtgttt ttagttaaat ttttgctggc ctggatgata 780
cctgatgttc caaaagatgt tgtggagaga atcaagagag aaaagttaat gactatcaag 840
attctccatg attttgagct caacaaatta aaagagaact tgggaattaa ttctaataa 900
tttgccaagc atgtcatgat tgaggaaaac aaagcacagc tggctaaatc aacactctaa 960
tcagtatagt gaggaagcag caggtgatct gccttacttc actttatcct ctggttttag 1020
ggccagacgc cagaagccat gtgtcaattt taccctttct tttttttttt ttcttttttt 1080

ttttaaacctc aaagttttta tacactttta tagaggccaa ctttgtgatg ttggaaatgt 1140
actacttctc tgcttcattg actgggccct ctccagatgt tgttttctga ggtgctgtaa 1200
atgactgttg aaagtgcagg tagaatcaga atactgggaa attatggagt cttgcagttt 1260
agtaagaaac actggccttg ggctgtccca tcactttcca gtgcatctat ttatTTTTgt 1320
ggtcttctct tgggttattt gatacctcct tccccattaa gaaaaatgtt ggggcaaaaa 1380
gaaatggatc aaagagactg actgagccct atatatccta tcattttaaa atatgcaaat 1440
gaattgccaa gatcggatga cataagaaaa ctcacacatt aaggtgttaa tgtatcatag 1500
cagaggttta ttctaacac attcaactac catcagaatc ccagatagtt cttcctggta 1560
aaggcagaat tccttttctc gagactgaaa ttttgggttt caacataaaa caacttgggt 1620
cttagagata ataatttggt tataatagtt tcaagactga tcttatctgg aaagcaacat 1680
tatgaagctg ttagattgct tcaggttctc aagcaaagac acaatacaga agtaaagtgtg 1740
ttttcttagt agttaatgga tgcaggacaa tgtatatga ttaatttggt gattttaatt 1800
tagaaaattg ttaaattatt tcttaaaaaat cacttttctt ctggaatgcc aatttcacat 1860
catgaagcct ttttgataa gttagatacg agttgtttat gataaacatt tctttgcttt 1920
aaaataattg caaatatttt aataagttta caaccttttc tattgatgta tcatcttata 1980
caatgctcag tgccttggtc caatacctct gacacacaag aagtcatgtt gttagctagt 2040
gatttgatgt gatgtaacat cttaaagtga agcttgctt aatgaaattg tcagtgtaat 2100
aacaactaca gtcttgaaaa ccaaaagtga atcaaccaac taagaatgag ttcatggact 2160
taataatcta agggggaaaa aatgtttggt gaattattcc tctcaaattt aggcttgtgt 2220
tacatgcaca aaaatccttg ttcttttttc acttaaaaaa actaaatatg tataactttg 2280
tgtatacaca cacacacatc tatatatata attattagca ctagagggat atagtcagat 2340
tatgtagtat ttaaactctc agtttcaaata tataattcac ctccaaaaga atagtttttt 2400
aatcacacac ataagaaatt ttatcacaat atttaaaact aatatttcat tatctaattgc 2460
taataaatta ttgtggtact gccagtatta aatatatggc agatggtatt aactactgat 2520
caatagtaag catacagaac tggggattat ggattttata aactatgaga cagtcacccc 2580
agtttggact gggactaatc cccagtactg atttgtcatc cactgagtag actttatgaa 2640
tattttgggt aatttgaaat gatctcatta ttgaaagatg atttcatatg tagagaagat 2700
aatatttctt tcttgaaaaa caagtcaggc ttacatgat gtgtgcaacc aatgtaggat 2760
ctttggcttg tcaaatacaga ttctccattg ctatagtga cagtgcacac agctcatatt 2820

gcttccttcc tgggtgctga taaaaataag agcatggaaa ttggtttctt gaatataagc 2880
 ttttaattttt aaggcttaaa agtattcata gaggtagact gtatgataaa taaaaacaaa 2940
 ttttaattcac aaagtatatct gtacactgca gttttaaaat ataccaacta aattattggg 3000
 tttctggaag tgaatggaga aaacagcaag ggaagaaatc gtttttaaga taagtaaata 3060
 attcccatgg attgataaat attttccttt taaaatgtta tggactgata ttttttattc 3120
 acctttaaat ttcttatcaa gaagtttatac tttgtttttc agatttaaaa atgaaataca 3180
 ggtattcgtc actttcctga aaccatgcta accaaaaatca gtagccaaac caattcagat 3240
 agatgtgtct catctaatta aaccatttgg tttttatggg agggctgcat taagagcacc 3300
 caaccaccac atgtaagttg ataattacca gcatggcagg tgattttatc tgctgaccaa 3360
 gcgcatagtt ttgttttggt ttcagaatgt tctagggaac atttgagatt ttatgtgaaa 3420
 taaaatttta agtgccaaag ccaaaaaaat 3450

<210> 631

<211> 3584

<212> DNA

<213> Homo sapiens

<400> 631

tgtcacacga gactggaagt aatacacgca gtgcctggca tgctgtatgc agccaatgcc 60
 cctgtgtctg gctctcagga gaacacagtg ccaccagcc agctgctgct ccagcagctc 120
 agtccagccc ctcacccttg gccacaggct cctgcagaaa ggagcctccc tgctccagcc 180
 ctggccaagg ctgcccggtc agcctggaac ctccatctcc cttttaccga ccagcacctt 240
 gtcctttcc tgttcccctc ctccatgacc cagcttgggg acccctttca gcagccttgg 300
 gacagtggct tctgcttgcc tctgcctgct tgcatggatt ttgccctatt cattctttct 360
 ttgagcatca tttccctcca ttccatctgc tgtaatgttc agacatttgc ttgggtcctt 420
 tgtcaggaat tgtgttccag taccactgtc attatgcaag atgatgtttg caaaccatat 480
 tcgtttccta tcgccactgt agcaaattag cataaactga gtggttcaaa ccaacagaaa 540
 tgttttataa ttgtggaggc cggaagttag gaatatgtct cgtgggggata aaatcaaggt 600

atcagcaggg ctggtcctgg agactccagg ggagaatcca ttcattgcca tttccagctt 660
ttgggtggttg ccagcatccc ttggtttgtg gccacatcat tcgaatctct gccttgttga 720
gcacatcacc ttctcctctg tcctagttag tcaaattctcc ctctgcctcc ttcttataaa 780
gatacttgtg attccatcta gggcccaccc aggtaatcca gaataatctc ttcattctcag 840
tgttcttaac ctaaccatat ctgcagggtc ccttttgcca tctaaggga cttcccaag 900
ttacagggat tagggcatgt tcttcttggg agccattatt cagcctacca cactgggctt 960
ttgacctttt atttttaatt atctatgctt ttatttttct ggttcacttc cctatatagt 1020
aaaagagcta gttttctact tagggtagtg gtctaacatt tttctaagtc actttttaaa 1080
gtaaaaaggg caagttgttt tcattgaaag aatgtgaagt gcacagctgc gcagggtgaa 1140
ctgatctgtc caacctggag aaggagtggt ctggggcatc cccggggatc cttcctgccc 1200
tcctctcagt ctagagcatc ttaagtgtgg ggctgtgcct cctcccactg tgcctcacc 1260
actctcctct gcccctttcc ccggcagctc accatcatct tcaagaactt ccaggagtgt 1320
gtggaccaga aggtgtacca ggctgagatg gacgagctcc cggccgcctt cgtggatggc 1380
tctaagaacg gtggggacaa gcacggggcc aacagcctga agatcactga gaaggtgtca 1440
ggccagcacg tggagatcca ggccaagtac atcggcacca ccatcgtggt gcgccagggtg 1500
ggccgctacc tgacctttgc cgtccgcatg ccagaggaag tggatcaatgc tgtggaggac 1560
tgggacagcc agggctctcta cctctgcctg cggggctgcc ccctcaacca gcagatcgac 1620
ttccaggcct tccacaccaa tgctgagggc accgggtgcc gcaggctggc agccgccagc 1680
cctgcacca cagccccga gaccttccca tacgagacag ccgtggccaa gtgcaaggag 1740
aagctgccgg tggaggacct gtactaccag gcctgcgtct tcgacctct caccacgggc 1800
gacgtgaact tcacactggc cgcctactac gcgttgagg atgtcaagat gctccactcc 1860
aacaagaca aactgcacct gtatgagagg actcgggacc tgccaggcag ggcggctgcg 1920
gggctgcccc tggcccccg gccctcctg ggcgccctcg tcccgtcct ggccctgctc 1980
cctgtgttct gctagacgcg tagatgtgga gggaggcgcg ggctccgtcc tctcggttc 2040
cccatgtgtg ggctgggacc gccacgggg tgcagatctc ctggcgtgtc caccatggcc 2100
ccgcagaacg ccagggaccg cctgctgcca agggctcagg catggacccc tccccttcta 2160
gtgcacgtga caagttgtg gtgactgggt cctgatgtt tgacagtaga gctgtgtgag 2220
agggagagca gctcccctcg ccccgccct gcagtgtgaa tgtgtgaaac atcccctcag 2280
gctgaagccc cccaccccca ccagagacac actgggaacc gtcagagtca gctccttccc 2340

cctcgcaatg cactgaaagg cccggccgac tgctgctcgc tgatccgtgg ggccccctgt 2400
gccccccaca cgcacgcaca cactcttaca cgagagcaca ctcgatcccc ctaggccagc 2460
ggggacaccc cagccacaca gggaggcatc cttggggctt ggccccaggc agggcaaccc 2520
cggggcgctg cttggcacct tagcagactg ctggaacctt ttggccagta ggtcgtgccc 2580
gcctggtgcc ttctggcctg tggcctccct gcccatgttc acctggctgc tgtgggtacc 2640
agtgcaggtc ccggttttca ggcacctgct cagctgcccg tctctggcct gggcccctgc 2700
cccttccacc ctgtgcttag aaagtcgaag tgcttgggtc taaatgtcta aacagagaag 2760
agatccttga cttctgttcc tctccctcct gcagatgcaa gagctcctgg gcaggggtgc 2820
ctgggccccca ggggtgtggca ggagaccagc tggatggggc cagctggcct gccctgatcc 2880
tctgcttcct cctcacaccc ccaagagccc ccagcccggc ccatccacgt ctggagtctg 2940
gggagaggag cagggcttta ggactctcag ctctgagcat ccctggcagg gtcttcaacc 3000
tctaattctt tcccttaagc cctgtggcca cacagccagg agagacttgc cgctggctcc 3060
cgctcatctt cagcccaggg tgctcatcca ggggcccaga acagtccac ctgtgctgct 3120
atgcccacag caciaagcca ggcttcactc ccaaaagtgc agccaggccc tggagggtga 3180
tcttgccagc agccctacag ctccacaccc taccaccca tcggcagccc ctctgctggt 3240
ccccagggac ctctcataca ctggccagga ggctgcagaa cgtgtgtctc cccctccctc 3300
caagaggctc tgctccctct gccagaaccg tgtgtgggcg ggtgggaggc cgctcggggc 3360
ccggccctc cctctccctg ctggtttttag ttggcccta tgttggaagt aaaaagtga 3420
gcactttatt ttggttgtgt ttgctcacgt tctgcttga agtggggacc cctcactgcg 3480
tccacgtgtc tgcgacctgt gtggagtgtc accgcgtgta catactgtaa attatttatt 3540
aatggctaaa tgcaagtaaa gtttggtttt tttgttattt tctt 3584

<210> 632

<211> 4980

<212> DNA

<213> Homo sapiens

<400> 632

agtgaaagtc cagtttatgt atggagagga tccaagcaat gccatgccgg taatctttgg 60
taaacttagc tgttcagaat tttcaaagga agcctataca gccgtagtat atcataacag 120
gtctcctgat tttcatgaag aaatcaaggt taagcttcct gctactttta ctgaccatca 180
tcacttgctt tttacttttt atcatgttag ttgtcaacaa aaacaaaata ctctctttga 240
aacaccagtt ggatatacat ggataccaat gcttcagaat ggacgggtga agactggcca 300
gttttgcttg ccagtctcat tggaaaaacc accacaggct tattctgtac tgtctcctga 360
ggttcctcta cctggcatga aatgggtaga taatcacaaa ggtgttttta atgttgaagt 420
tgttgctggt tcgtctatcc atacacaaga tccttatctt gacaaatfff ttgctctggt 480
caatgctctg gatgaacgcc tgttcccagt ccgaattggg gacatgcgaa tcatggaaaa 540
taacttagaa aatgaattga agagcagtat ttcagcactg aattcatccc agctggaacc 600
agtgggtccga tttcttcac tcttgctaga taaactgata cttttagtta ttagacctcc 660
tgtcattgct ggccaaatag ttaacctagg tcaagcatct tttgaagcca tggcatcaat 720
tataaatcga cttcacaaaa acttgggaagg aaatcatgac cagcatggca gaaacagcct 780
tcttgcatca tatattcatt atgttttccg cctaccaaatt acttacccta attcatcacc 840
accaggctct ggggggtttgg gaggatcagt gcattatgcc acaatggcta gatctgcggt 900
gagacctgca agccttaatt taaatcgttc tcgaagcctt agtaatagca atccagatat 960
atctgggact ccacgctcac cagatgatga agttcgatca atcatcgga gtaaggctat 1020
ggatcgaagt tgtaatcgta tgtcttcgca cacagagacg tcaagtttct tacaacatt 1080
aacgggacgc ttaccaacta aaaagctttt tcacgaggag ctggctttgc agtgggttgt 1140
ttgcagtggc agcgttcggg aatcagcttt gcaacaagcc tggttctttt ttgaattaat 1200
ggtaaagagc atggtgcacc atttatactt taatgataaa cttgaggctc caaggaaaag 1260
tcgttttcca gaacgtttca tggatgacat tgcagctctt gtcagcacga ttgctagtga 1320
tatagtttca cgatttcaga aggacacaga aatggttgag agactcaata caagccttgc 1380
attctttctc aatgatctgt tgtctgttat ggacagagga tttgttttta gccttataaa 1440
gtcctgctat aaacaggtgt cttcaaagct ttactcatta ccgaatccca gtgttctggt 1500
gtccttgagg ctggattttc tacgaatcat ctgcagtcac gagcactatg ttacattaaa 1560
cttaccctgc agcttactta ctccacctgc atctccatca cttctgtttt cttctgcaac 1620
atctcagagt tctggatttt ctacgaatgt acaagaccaa aagattgcaa atatgtttga 1680
attatccgtg cctttccgcc aacagcatta tttggcagga cttgtgttaa cagagctggc 1740

tgatcatttta gaccctgatg ctgaaggact gtttggattg cataagaaag tcatcaatat 1800
ggtacacaaat ttactctcca gtcacgactc agaccgcgg tactctgacc ctcagataaa 1860
ggctcgagtg gccatgttgt atctacctct gattggattt atcatggaaa ctgtacctca 1920
gctgtatgat ttacagaaa ctcacaatca acgaggaaga ccaatttgta tagccactga 1980
tgattatgaa agtgagagcg gaagtatgat aagccagacc gttgccatgg caatcgcagg 2040
gacatcggtc cctcaactaa caaggcctgg cagtttcttc ctcacgtcaa cgagtggcag 2100
gcaacacact accttttcag cagaatcaag tcgaagcctt ttgatctgtc tactttgggt 2160
tctcaaaaat gcagatgaaa cagttctaca gaagtgggtt acagatctct cagtcttgca 2220
gctaaaccgg ctattagatc tgctttatct ctgtgtgtct tgctttgagt ataaaggga 2280
aaaagtgttt gaacgaatga atagcttgac ctttaagaaa tcaaaagaca tgagagcaaa 2340
gcttgaagaa gctattcttg ggagcatagg tgccaggcaa gaaatggtac ggcgaagccg 2400
aggacagctc ggtacgtaca caatagcttc tcctcctgag agaagcccat ctggaagtgc 2460
ctttggaagt caaggaaatt tgaggtggag gaaagatatg actcactggc gtcaaaacac 2520
agagaagctt gacaaatcaa gagcagagat tgaacacgaa gcactgattg atggaaacct 2580
ggctacagaa gcaaactaa tcattttaga tacattagag attgttggtc agaccgtttc 2640
tgtaacggaa tccaaagaga gcattcttgg tggagtgtac aaagtgtac tacacagcat 2700
ggcctgtaac caaagtgtag tttatctaca aactgtttt gctacacaga gaggcttgggt 2760
ttcaaagttt cctgaactct tatttgaaga agagacagag cagtgtgctg atttatgcct 2820
caggcttctc cgacactgta gcagtagcat cggtaacaata cggtcacacg ccagtgcctc 2880
cctttaccta ctaatgaggc aaaactttga gattgggaat aactttgcca gggttaaaat 2940
gcaggtaaca atgtcactat cctccttgggt gggcacatct cagaatttta atgaagaatt 3000
cttaagacgt tctctaaaga ctatattgac atatgctgaa gaagatctgg aattgaggga 3060
aacaacattt cttgatcagg tccaggatct ggttttcaat ctccatatga ttctttctga 3120
tactgtgaaa atgaaggaac accaggagga tcctgaaatg ttgattgatc taatgtacag 3180
aattgccaag ggttaccaga cctctccaga tctgcgattg acctggttgc agaacatggc 3240
aggcaagcac tcagaacgaa gcaatcatgc tgaagctgca cagtgtctag tccactcagc 3300
agcacttggt gctgaatatt tgagcatgct ggaggaccgg aaatatcttc ctgtgggatg 3360
tgtaacattt cagaatattt catctaattg tttagaagaa tctgcggtct cagatgatgt 3420
ggtatctcca gatgaagaag gtatctgctc tggaaaatac ttactgagt caggacttgt 3480

gggattactg gaacaagcag ctgcttcctt ctctatggct ggcatgtatg aagcagttaa 3540
tgaagtttac aaagtactta ttcctattca tgaagctaata cgggatgcaa agaaactatc 3600
cacaattcat ggtaaacttc aagaagcatt cagcaaaaatt gttcatcaga gtactggctg 3660
ggagcggatg tttggcacct attttcgtgt tggtttttat ggaaccaagt tcggggattt 3720
ggatgaacaa gaatttgttt acaaggagcc tgcaataacc aaacttgcag agatatctca 3780
cagattggag ggattttacg gagaaagatt tggagaggat gtggttgaag taatcaaaga 3840
ctctaatacct gtagacaagt gtaaattaga tcctaacaag gcatatatc agattaccta 3900
tgtggagcca tactttgaca catatgagat gaaggacaga atcacctatt tcgacaaaaa 3960
ttacaatctt cgtcgattca tgtactgtac accctttact ttagatggcc gtgcccattg 4020
ggaacttcat gaacaattca aaaggaagac cattctgact acgtctcatg cttttcctta 4080
tattaaaaca aggggtcaatg tcactcataa agaagagatc atcttaacac caattgaagt 4140
tgctattgag gacatgcaga aaaagacaca ggagttggca tttgcaacac atcaggatcc 4200
cgcagacccc aaaatgcttc agatgggtact ccagggatct gtaggcacca cagtgaatca 4260
ggggcctttg gaagttgccc aggtttttct gtctgaaata cctagtacc caaagctctt 4320
cagacatcat aataaactgc gactctgctt taaagatttt actaaaagggt gtgaagatgc 4380
cttaagaaaa aataagagct taattgggcc ggatcaaaaag gagtatcaaa gggaactgga 4440
gagaaaactat catcgctta aagaggccct acagccactg atcaacagaa agatccctca 4500
gttatacaag gcagtattgc ctgtcacctg ccacagagat tccttcagtc gaatgagcct 4560
tcgcaaaatg gatctctaaa ctgaatgcac ttgttttatt catctgcaaa gagccatgta 4620
ttcaacatcg agtgtgaaaa gatctattgg aaaacaacat ggaatggaat tctggaaatt 4680
attattcatt gaagaatgca gtggccaaga aaatatcaaa ttagattgt taacgcttga 4740
gaatcatggc tatggtttct aatgttctgg taacaagctg ttatctttta agacatttta 4800
atgactcaaa ggtacactat acatttacca ttatttatac catagctaag gttaaaaatt 4860
tattcacttt aagttcgtat tttttaattt atattacat ttatagattc attttgaac 4920
cattttaaat gtagtaatgc ttatttttaa ggtactatta aatatgtgaa tgtttacact 4980

<210> 633

<211> 5127

<212> DNA

<213> Homo sapiens

<400> 633

```
agatgcgccc agcagcggct gcgccgggac cccacgtttt ccgctcaaga tgaagacgct    60
aaaattcaga gctcaacaca tggcatagtc aagacttgaa ctcaagtcac caaactccaa   120
agtctatgct caaccacagt gccctcctgc cttctctgct ataatacagt ccactggacc   180
ttcacatgtc aaaatgcaga ttccccaat .ccatctgtc ttgcagatgg ccaaaaatgt   240
ccatatattg tcttggtttc acctttgttg tgatgtttct cctcactctg tgcacctctg   300
gaatgtgtca aaacaatttg ggacatgcat ggctatgtat gtgggtgctt ttgtgcatgt   360
gtgcatgagt gtgtggatgt gtgtgtgtat gcagggtgtac acttgtgcat atgcaagtgt   420
acataggtgc atgtgtgtat ctgtgagcac atgcatgtat gtgtgggtaa gagttcatgc   480
atgtgtatgt gcacctgtgt gcatgtgtgt gcgcataatgt ctgtgaatgt atgcatgtgt   540
atttgtgcgc ctgtgtgccc atgctacatt tcacagacaa cagttcctgc ttggttggtta   600
tgggaaccac agttctaaaa atgttaaact gaatcccact ccatgtgaac cagagaaacc   660
aaaagagaga gagagctcag tgacggagac acctctgggg tcccagagct gaggcaaaga   720
atttggggct cagcaagagc tggaaagacc cagactagcc agaggtgtag acccactcat   780
gaggcctatg gtgcctatca gggccccttg ctgcagactc ggtcctcagt cctgcttttt   840
cccatctttc cctcctgac ctttctctc cctctctctt tgccagcttc atgctctcca   900
accaccttcc ttccctctc cttccccttt ctgtttccct tctccttttg gggttttttt   960
gttgttgttg ttcaactaat tgacacaata attaagcact ttcatgttag acttgggtgat  1020
atggggacca cacatgtgga tcaaatgagg tttctgccct tgaaggtgct caaaggtggg  1080
agcatttgga taactggtgg gggaagggag gtggcagagc aaagcacaaa gggagagatg  1140
acagaggagg ttggaagggtg aatttggatc agatatagag ggctttcaca gcaagggtga  1200
aaaataggta ttgtttttat aggagggtgg aaaccttggc cagtttggga tgaagctctt  1260
gtttgttgtg aatggtgtat taggaaatgt tcatcattaa tgctgggcaa tgtggaatga  1320
aagaggcata atggaggcag agggaccaca ggacgcagtt tggcatagtg taggcttgtc  1380
tcaaataggg tacaggagtt ggggtgaaga gggagaaaat agcaaacatt ctgggttgct  1440
ttctcaaact tcccccccat atccacctc atcaagatgt gtattacttt ttccacctt  1500
```

tctggtgtga gaatcaggac ttgagtgagc ctctgttact gatgtgtgtg tcgaatttct 1560
caggtgcccc aggaagtaaa atagttggga atcactggcc cagcatgtag tagcactcag 1620
tatctgtgga gtgagtggat atttagatat gcactggctc tggaactgga aggcccaggt 1680
tcaaggccca ttctattctc ttattatctg tgtgcccttc agaaaatccc caacatcttg 1740
ggcttcagta ttctcttcta tagagtgtgg gtttggacag gatgttcttt ttaaaaaaat 1800
acttaaaaaa atagagacag agttttgcc a tgttggccag gctggtcttg aactcctgga 1860
ctcaagccac ctacccgcct tggccttcca aagtactggg attacaggcg taagccacca 1920
ttcctggcct ggacaggatg ttcttacaaa ctccttccaa ctgcaacgct attatgtgat 1980
tctatgaaat tgacatagcc aaggtatgtg tgtatatgga gggagtggca tggactaagg 2040
tgctggcaat aggcacagag aggataaatg tgggaaatat tttaatagaa gaattaatat 2100
catctggcct cagttttcaa caacattgtt gactagatag cccaaagact ctcttgctac 2160
aaaatatgtg gattgcttca taaaatgtaa cagacatctc ctgaaatgct tggctgagct 2220
tgcaagaaag ggaaaaaat ctacatggac caaaataggg ggactgagac caagaaatat 2280
aagcatgaga tgtgctgtga ctaaccccag aaggtatggg aaggaggca tattgcttgt 2340
ttgtcctgac ctggatcctg gttagagaag tgggaactgt ctctgagaat ttataactac 2400
ttgagttgga ctttgaactc aaaacatctg catgttacaa gaacctcaaa ccaagaaatt 2460
aacaaaagat tggctctccat caggtgatac tcttggagtg tctggtagaa gcaaacagga 2520
aactgctcag gagaaacata ccatcaccca aggccacaga gcattgctgc ccaagtaaat 2580
ccccactgaa gttgagctca caagctaaag attataatac gtaacctgga acaatgtacc 2640
gtgaatgaga gtagagaaga ccctgaagaa ttacaataag attcaacaag tctaagtac 2700
agcctggatg tgtgggggtg gaagaagcaa aagcgaatcc cacagagctg tagttactta 2760
gatgaatcca gggaatcaaa taatgttgct attaccagaa atatggaagg gtgatttgat 2820
tttagacaga ctgtatttgg aatggtgggtg ggacatccat atgggggtat tcattagaac 2880
catggggctg tctgacttag aagccatcta cgtaggaata atagctgaag gcctggcaat 2940
gaatgcactc tgtaaggaaa gtgttgaaat aggaaagaag agagctaaga actggtccag 3000
gaaaacactc atgttttgag gaccagttga aaaagaggag caaataagga aaatgagctc 3060
tttggctctc aattctggtt gggctcctggg tttggatttt cacattgttt ggttttaatt 3120
ctttccatct ctagtctaatt attctcatcc ctcacaatcc ctaggggaag ctccaataaa 3180
tgggagcagt gtccttggg acatagcagg aacttctcag ctaggagtta tagagccaga 3240

ctgggctctg gtaccaggac tactactaag tcacttcttt ggggttcaat tttctcatca 3300
gtgatgttag gcctaggtgg gtgtgaggat aagaataata gagctgatgg cacttgctgg 3360
aatgctgctg gagagggcaa gataggggtg atcagaggcc agccaccac tgtctgcgtt 3420
tcctcctttg ttcagcttgt gtgttttggg accagttgct tgaaatatgg gccattatgc 3480
ttttcttgcc ctactcttca tgaaaagtga agtcagggtg cccatgccta ataagtgaag 3540
gggtgtggtga cttaaatagt aagacaatga ggggtcatgat tatcttgtgt ctccatgaat 3600
ctaccactta tcacagtgcc tgacagtcca caatttgagc ctcttcattg ggtaaacaat 3660
tgccctctgc aggctactgt tctaaaatgt taattctcct agaagaggta atattaaatc 3720
ctttaccaca aattagtttc ttagatacaa gatacttggc cacatgaaag cacttaaaac 3780
ctagggagag aaaaggatgg aattctctga gttgatcatt ttgtctctgg tcagctggac 3840
tgtggggtgg aggggtgagca tatcttagag tgaaggagtg aagaaagcag caagagtatc 3900
agaagctggt ttgatctggc atcatagggc tgtaaggctt ctttaattcaa gaacagctca 3960
gctcagaaga gaaaacaatg aagtcctcag acacaggcct tctttcttcc ttatcagaga 4020
gggggtcattg gagcagagag atggagagca cagcggcctt tttatgctcc aaggctctgcc 4080
caagggtggcc agaaagagtg gaaaagcttt ggggtggggag ttcaaagagt aaaaaggggc 4140
caccttcacc attacaaggt catgctttcc tcatcaccct cctagccttc ctctgatccc 4200
aaagccatga agagttcact tggaaggaca gctggagaaa agtggctgtg gcaggcgcac 4260
ggctgaatgg taagtaggct gatgccacct ggagaagatc ctttttgtgg gaagagcaac 4320
taaggtgacc atcagtctct ggcaagtgcc tgctcccagc tatattcagg tgtgctctag 4380
ctaaatgctg agaccctttg ggtcctgaca tcacgtgact cttgaacaga tgcatagata 4440
ctgtctggag cctctgtgac actgaacact ctgggctttc acaaacagca ccaaataact 4500
gcagcctttt gctgttgctg ctactgcctg gagctccctc tagctgcaa acctgtttct 4560
caccttctgg taggaagcct ttccaatcag tgctattaag tttaggtgtc tccattctgg 4620
ggttggaaaa tgagggttgg ctttgaagtt ggacagattt gtttgacctg tctgttccta 4680
gcctgggtta actacattgt tccagcaagc tatctacatt gcttccacat ctttgaaatg 4740
aggtatatgc ctgctttatt tgggaatgcg aggattaagg agaataatat atacataatg 4800
ttgaacacct acgcctttta accactttga ggttccagaa acacctccag cccttaggtg 4860
agctgtgatt aaattcgctt attaacccaa cacacattta ctgaatgcct actctgtgcc 4920
gcagttcctg gcagggtgtg ctgacagtgg gtgtgtaata tggtcagggt ctgtatccca 4980

tgagcgtggg gatctccttt atcttctggc acatatggtc ctgggggaga agctaagggg 5040
aagggtcagg agcttacatg gcagattcag taagcttita gcacaataat ttttaattgca 5100
aaaataaaca gttttgtcaa ctgcttg 5127

<210> 634

<211> 3123

<212> DNA

<213> Homo sapiens

<400> 634

ggccactgcg ggaggcgcg cgcgcaggca gccaaagcctt gccttcggag gagatgccca 60
ggaatcttag caagcagcct gcggctgccca gggatcggac ctggcgagtt tcccgcagga 120
atctgaggga tcccgaacct cggcctcgag ggggcgctat ccggcctact cgaggaccag 180
gcagctgcag agaagctcca aggtcaaggc cctgggccag gccagggcctt ggagagccgg 240
aatctagccc gagtcctggg gaggttgagg cggggaacca gatccccgag gacaaagatg 300
ggcgggccag tgggatccac cgacgtgcc cggagctgct ccaacgagag ctgggcctgt 360
ggcgtgaaca aactttactt cagcgcaggg gcggaggaac cgggctggag gcttctcccc 420
cgggcctctg ctctctcca cctgccagt ctcagcctcc gccagcctt cgeccacccc 480
agctccctcc ccctcccca cgcgcctctg ttcactcaga ctctgtctc ccctctcccc 540
tcctccttct ccctcttgcc tttctcccc acttttctc tgtctcttct tttgtattct 600
ctctccctc gccgccccgg ttgcctctcg cctcctccgg gccgcagggg aggaggtgag 660
cgcgctgcgc ccggggcctg cgcggctcag agggaggcgt ttctcctact tctcccgggt 720
aatttgagga ggttgtgtgt gtgtgcgcgc gcgcgtgagc tccaggcgaa aaggggtagg 780
attcagcgcc gagcagagag ggtcagggtt tttgacgttc ctgccagct gcacaaacct 840
cccggagcaa gtgtgagtgt gggtagagat gcgcgcgcgc gcacgggctg gctgcgcttg 900
gcacgcttgg tggcccaggg tcccggggcc cggggtccc tctggcggcc cgggattacc 960
gtgacgtcac attgagcctc tggccacctt ggactgggac acctccggag cctcacagcc 1020
ccgcgccgcg ccgcgcctca cctcgccacc acgcgccttt gggaaccgcg atcttcttcc 1080

ttcccctgcc catccatggg cccttctgtc ttccggaccc cacgggccgg agggg'gcct 1140
tccggagcgc agggctcggc agccgggctg ccctcggctc tgcctccact ggggccaacc 1200
aggcgaagga accggcgcgtg ggcatccgca gcggtgtaag gaactgagac acctcactgc 1260
tgggggcgcg gaacagctgg gctgagacgg gaactcgaca gggaagagag agacgggcca 1320
gggacagcca ccatgtcctt cccacacttt ggacacccgt accgcggcgc ttcccagttt 1380
ctggcgtcgg caagtccag caccacatgc tgcgaatcta cccaacgctc tgtctcagat 1440
gtggcatcag gctccacccc agcggccgct ctctgctgcg caccctacga tagtcgactg 1500
ctgggcagtg cgcgaccgga gctgggcgcc gccttgggca tctatggagc accctatgcg 1560
gccgctgcag ctgcccagag ctaccctggc tacctgccct atagcccaga gccccctca 1620
ctgtatgggg cactgaatcc acagtatgaa ttttaaggagg ctgcaggagg tttacatcc 1680
agcctggcac aaccaggagc ctattatccc tatgagcggga ctctggggca gtaccaatat 1740
gaacggtatg gcgcagtgga attgagtggc gccggtcgcc gaaagaacgc gacccgggag 1800
accaccagta cactcaaggc ctggctcaac gagcaccgca aaaacccta cccactaag 1860
ggtgagaaga tcatgctggc catcatcacc aagatgacct tcaccaggt gtccacctgg 1920
ttcgccaacg cacgccggcg cctcaagaaa gagaacaaaa tgacatgggc gcccaagaac 1980
aaaggtgggg aggagaggaa ggcagaggga ggagaggagg actcactagg ctgcctaact 2040
gctgacacca aagaagttac tgctagccag gagggccggg ggctccggct gagtgcctg 2100
gaagacctgg aggaagagga ggaggaggag gaggaagctg aagacgagga ggtagtggcc 2160
acagctgggg acaggctgac ggagttccga aagggcgcgc agtcactgcc tgggccgtgc 2220
gctgcagctc gagagggccg attggagcgc agggagtgcg gcctggctgc gccccgttc 2280
tccttcaatg acccttccgg atcggaagaa gctgacttcc tctcggcgga gacaggcagc 2340
cctaggttga ccatgcacta cccatgcttg gagaaaccgc gcatctggtc tctggcgcac 2400
accgcgacag ccagcgtgt tgaaggtgca cccccagccc ggcctaggcc acgaagtcct 2460
gagtgccgta tgattcctgg acagcctcct gcctctgccc ggcgactctc agtccccaga 2520
gactccgcgt gcgacgagtc ttctgcata cccaaagcct ttggaaacct caagtttgcc 2580
ctgcagggac taccgctgaa ctgtgcgccg tgcccgcgga ggagcgagcc tgtagtgcag 2640
tgccagtacc cgtctggagc agaagcaggt tagcgcaatg gctgcgattt gcgaaagaat 2700
cttggaatg ggccccacgt ttcgaattca tctccaggtt aagaagctgc cagaccttgc 2760
cagggaccag gagctctcac tttgcctaag agacagacac acagaaacct tcctagcagc 2820

tgtccttgca cgcagagctg ggggtggtggg ccgacttgaa ccttagcagt cccacaggga 2880
 gatggcaggg caccttgggg aaggccaagt gggaagctgg gaggctgccc caccaccga 2940
 ctctaccaag tctctcttcc tctgtggat tcagcaaggc ttcctctcct gtcacccct 3000
 gtctctcacc tccaccaacc ccactcactt tgtaacttca tctactgacc ggccaataag 3060
 gaccctgtgc gtcttctccc cctcctaagc ccttgtgtcc ttaaaaataa tcagtccgaa 3120
 ccc 3123

<210> 635

<211> 4871

<212> DNA

<213> Homo sapiens

<400> 635

ctggctcttt ttatgaattt ggaagttttt agactagggtg gttgtagtgt tgcctcccgg 60
 gtgttaggat ccctgggcgt cacctctcag ctccctgcttt ccatttcctc atcataaacc 120
 ctgtttttgt tctcactgtg accctgttct gctttgaccc tacagctcgc taccacctct 180
 gtggtttttt tcttttcagg aagcttaggg tggtaaagtc ttttggccat tcttgttcat 240
 actcatttat tcagatacca tttattaata gtaagcccct gctttgtgta agcactttgt 300
 tagacactag ggtgctcctt tgaccccccc atcccaactcc attgtgagct ggctcttgct 360
 ctcagggtcc tgctcaacat catgtacctg atagtggaga ccgttcacat ggagtgtgag 420
 ggtgacaagg ctgagtggag gaccatgcgg cagaccttca gagccgagct gggtaggacc 480
 ctggggatcc tctctagagg ccctgcctgg aagctgaggc ggaaggcttt gggagggtcc 540
 tgataccttt gtgtcacctc caggctcccc gctgtacaac aatgagccat ttgccatcat 600
 gctgtttggg atggtgacca aattttgcag tggtcacgcc cctcactttc ccatgaagaa 660
 agttctcttg ctgctctgga agacagtatt gtgcacgcta ggcggctttg aggagctgca 720
 gagcatgaag gctgagaagc gcagcatcct gggcctcccc ccgcttcctg aggacagcat 780
 caaagtgatt cgcaacatga gagcagcctc tccaccagca tctgcttcag acttgattga 840
 gcagcagcag aaacggggcc gccgagagca caaggctctg ataaagcagg acaacctaga 900

tgccittcaac gagcgggatc cctacaaggc tgatgactct cgagaagagg aagaggagaa 960
tgatgatgac aacagtctgg agggggagac gtttctcctg gaacgggatg aagtgatgcc 1020
tccccgcta cagcaccac agactgacag gctgacttgc cccaaagggc tccgtgggc 1080
tccaaggctc agagagaaag acattgagat gttccttgag tccagccgca gcaaatttat 1140
aggttacact ctaggcagtg acacgaacac agtggtgggg ctgcccaggc caatccacga 1200
aagcatcaag actctgaaac agcacaagta cacgtcgatt gcagaggtcc aggcacagat 1260
ggaggaggaa tacctccgct cccctctctc agggggagaa gaagaagttg agcaagtccc 1320
tgagaaaacc ctctaccaag gcttgctccc cagcctgcct cagtatatga ttgccctcct 1380
gaagatcctg ttggctgcag caccacctc aaaagccaaa acagactcaa tcaacatcct 1440
agcggacgtc ttgcctgagg agatgcccac cacagtgttg cagagcatga agctgggggt 1500
ggatgtaaac cgccacaaag aggtcattgt taaggccatt tctgctgtcc tgctgctgct 1560
gctcaagcac ttttaagttga accatgtcta ccaggtagcc acagggcttt cctcctgtc 1620
ctgtgggctg gggcctcggg cactgctgct cctccagccc acaagaacgg gggccttggc 1680
ctttgacca cttgaactct gcatgaatgt tctaagacat ggcccttcag ccaaggcctt 1740
tcatccctgg aggaaagagg gcaagggtccc aagggccgcg cctttttttt tttttttttt 1800
ttcctgttgg cttcagtttg aatacatggc ccagcacctg gtgtttgcca actgcattcc 1860
tttgatccta aagtcttca atcaaaacat catgtcctac atcactgcca agaacagggtg 1920
atgagggccca gggaccatga aggggtggat atggtcagac ggcagagttc ccagctggta 1980
tttcccactg tgtccatfff tccagcacct acgagccagc actgtgctag gcatcaagac 2040
ataaagataa atgagacatg gcctctgcct gtggagagcc cactgtgtca aatctgagtc 2100
tagctagtcc tgccccaggt gacttgggtc gtgcctgggc aggagggttt tcatcccagg 2160
atctagtact ttctccctg tcccttctgt actttttttt ttttttttg aggagtccat 2220
gggctgcttg ctgtctctaa ggggctcggc catgtgcctt gtaatgccct atctgctgac 2280
tcttagcccc tgctgttggc ctggtgccag ctgtgcttga cattacttgc tcgtcagtgt 2340
gatataccac agggcgccgg ccagaccctg tctccagaaa ggtttggcat aaattagttg 2400
ccctgagcga tctcctcccc cgccccacat tgattgctgt gggggaagct gtgagggtct 2460
cttcccctta caagatcaac aagctggcct ctggctacag ggggtgcttta caagttctct 2520
tgtaacagat atttctcat cttatagggtg gggaaactgg ggtgggacac atcaggtaga 2580
ttctacttc tgctccaaca agtgaggggag gaaagctggg agctggctca ggcacggctg 2640

ctccaccagg ccctgggcct ttgctcatgg tgggcatctg gttcctctcc cctctgcagc 2700
atttctgtcc cggattaccc tcaactgcgtg gtgcatgagc tgccagagct gacggcggag 2760
agtttggaag caggtgacag taaccaatit tgctggagga acctcttttc ttgtatcaat 2820
ctgcttcgga tcttgaacaa gctgacaaag tggaagcatt caaggacaat gatgctggtg 2880
gtgttcaagt cagcccccat cttgaagcgg gccctaaagg tgaaacaagc catgatgcag 2940
ctctatgtgc tgaagctgct caaggtacag accaaatact tggggcggca gtggcgaaag 3000
agcaacatga agaccatgtc tgccatctac cagaaggtgc ggcatcggct gaacgacgac 3060
tgggcatacg gcaatgatct tgatgcccg gcttgggact tccaggcaga ggagtgtgcc 3120
cttcgtgcc aacattgaacg cttcaacgcc cggcgctatg accgggcca cagcaacct 3180
gacttcctgc cagtggacaa ctgcctgcag agtgtcctgg gccaacgggt ggacctcct 3240
gaggactttc agatgaacta tgacctctgg ttagaaaggg aggtcttttc caagcccatt 3300
tcctgggaag agctgctgca gtgaggctgt tggtagggg actgaaatgg agagaaaaga 3360
tgatctgaag gtacctgtgg gactgtccta gttcattgct gcagtgtcc catccccac 3420
caggtggcag cacagcccca ctgtgtcttc cgcagtctgt cctgggcttg ggtgagccca 3480
gcttgacctc cccttggttc ccagggtcct gctccgaagc agtcatctct gcctgagatc 3540
cattcttcct ttacttcccc caccctcctc tcttggatat ggttggtttt ggctcatttc 3600
acaatcagcc caaggctggg aaagctggaa tgggatggga acccctccgc cgtgcatctg 3660
aatctcaggg gtcattgtga tgcctctcga gacatacaaa tccttgcttt gtcagcttgc 3720
aaaggaggag agtttaggat tagggccagg gccagaaagt cggtatcttg gttgtgctct 3780
gggggtggggg tggggtgttt ctgatgttat tccagcctcc tgctacatta tatccagaag 3840
taattgcgga ggctccttca gctgcctcag cactttgatt ttggacaggg acaaggtagg 3900
aagagaagct tcccttaacc agaggggcca ttttccctt tggctttcga gggcctgtaa 3960
atatctatat ataattctgt gtgtattctg tgtcatgttg gggtttttaa tgtgattgtg 4020
tattctgttt acattaaaaa gaagcaaaaa taattcccgt tggcttgtct acaggaaata 4080
tggcctctac gtatctctc caggtctaga aagtggtttt ttctgctagc attgctggtc 4140
aacgcttgc cttgtcaagc tgcctgcctt tccatcctg ggggaagagg agagagagtt 4200
ggcatttatt cagtttatca agaagtttac tgtggaggat gaaaatatca cccagggaaa 4260
tgtcaccaac aatttaaca aggcagcctg gatcaaaggc tgagtcttct gcctcccatg 4320
acaaccttgc tgagcctcag tttcctcctc agaaaggaga gcctaccatg tgatcccat 4380

ttgctggtac caggatatag tggcacacac gacatgtgat ccctgccttc acagtgctta 4440
 cactttgctg gaatggaagt gtctcatcca cgttgaagaa aatcatcctc atttggtgt 4500
 gaattagaat agaatctggt cttgtgagaa gagttcctgg ctctgggcct caactgtaag 4560
 gtcagttctt catttaggga aacatcagcc ccagcaccac tttccgtttc attctctgct 4620
 tccctcagcc tgcaccacag gaaggacatg tgcttctttt tccccagtg gatttccaga 4680
 agggataggg acgatgagaa agaggtaacc tcagatctga gatttgcttg acatacacia 4740
 aatttccttc caacaggga aactcagttg ctttttttcc ttcaaaggaa atacagttgg 4800
 tattacctt gtctgttta gatactgaaa tcctaaattg attcatataa aaattctggg 4860
 ttgggaacc c 4871

<210> 636

<211> 4133

<212> DNA

<213> Homo sapiens

<400> 636

tttgcctcat aaaagataaa gctgcagttc agaagaactg atttcttttt gatgtaatta 60
 atattaatgc tggctgtcat tgtccattca taggtccaga actcagctca gcagcccagg 120
 acttgccct acccttctgc tttcagccag acccccgtgc tcagccttgg tttaactcc 180
 atgccttacc aagtggccat tccacagcca gtcgcttgc gccccctgct ccctgcccc 240
 atgtgctcat ctaatatcac ctctgggggc aagaaagggg gcagcacaaa agtgggagtg 300
 agcagagggg cagtgggtgt gctgttgtct tgcatgagcg acaaggaggg ttttgggttc 360
 tctctgtcta gtcaaactag acatatagag cttttcttca gacctagca gtatagatac 420
 cttccaaagc ctaataaag gtttattttt aaattatctg caataattat ccatgccata 480
 attccctgcc accagaatga gtaatcagga attaatggta gaggcatttc tgcagtgtac 540
 atctgcaagg tggaatctgg aggctctgcc catatgtgga accaaggaga aggtgggtta 600
 atacagttac agctgcctcc ttcccagcaa atgccagtg gagtgatgcc ttcagttgag 660
 ccaacagccg cctccctgcc cctcatgggc tcaccacag aaaacggcag tctcatctgt 720

atgcagctct ggtcactgta tttattgttt gggttagaat gaggaggtgg cactagtttg 780
tcttcatatg ttccttactc ctgattaata cgtaagaaca tacttgctga tttcacttgc 840
ttctttgggc ctgcttggtt taaattagaa tatcaacatt ttcctggggc ccattataac 900
accccccccc cccacatttt caactaaaaa cccgaacaag tctggtactc tctagatttg 960
gtgttaagga aacagaactg gctcctctgt gggctcttcta gtgttagaga cttttcagag 1020
tgattttgga taaatagtca aacgtttact ctcttcataa ggtaggtagg gtagaaatta 1080
ttttcgtttt atattcttcc cagcctctaa gacttaattt ttttaaaaaa agaaatgaaa 1140
tgtccctgaa ctttttggtt ctaggattat gcttggtgtc atcagtcggg tttcctctgg 1200
tgtgattttg ctgtagtaga ttgggggtgg aggaggtggc agggagggag ggggtggtca 1260
ccacttggtg gatcttagga taaagttggg tgtgtccaga ggtgactgat acaccttata 1320
atttcagact gttccatgtc atgtgatcac tttaaactag gcttaatcca aacctctctc 1380
taaagataat tcacaataga ggacagagtg gtcacatagt gtttcttaca gtgacatgtg 1440
cattagaatg attttagac caaatttcaa acgtttcctt ttttggcaaa ttgtgtctga 1500
aattatttga ttttctttt agaaaaacac accaactttt atagccctat ggctatgtaa 1560
ataagatgat ttctggaaca caaatgggca aatagtatgt agaatatcat tagaatcatt 1620
atatcactgt cactggtcct ggggttgcca ggcttttct gattatcaga tgcaacaaat 1680
gacgtccaat tttattgacc agtttggctt caacgatgag aagtttgcag atcaagatga 1740
cattggcaat gtttctttt atcgagtatc agacatcaac tttactctca atacaaatga 1800
aagtggaaat attgccttgt ttgaagcatg ttgtaaggaa agaatacaac agttt gatga 1860
tggtggctct gatgaggaag atatatggga ggaaaagcac atcgattca caccagaatc 1920
ccaaagacga tccagctcgg ggagtacaga cagtgaggaa agtacagact ctgaagaaga 1980
agatggagca aagcaagact tgtttgaacc cagcagtgcc aacacggagg ataaaatgga 2040
gggtggacctg agtgaaccac ccaactgggc agctaacttt gatgtcccaa tggaacaac 2100
ccacggtgct ccattggatt ctgtgggatc tgatgtctgg agcacagagg agccgatgcc 2160
aactaaagag acgggctggg cttctttttc agagttcacg tcttcctga gcacaaaaga 2220
ttctttaagg agtaattctc cagtggaaat ggaaaccagc actgaacca tggaccctct 2280
gactcccagt gcggctgccc tggcagtgc gccagaagcg gcaggcagtg tggccatgga 2340
agccagctct gacggagagg aggatgcaga aagtacagac aaggtaactg agacagtgat 2400
gaatggcggc atgaaggaaa cgctcagcct cactgtagat gccaagacag agactgcggg 2460

cttcaaaaga gtgttgaaat cctatcgtga ggaagggaaa ctgtctacct ctcaagatgc 2520
tgcttgtaaa gacgcagagg agtgtccga gactgcagag gcgaagtgcg cggcgcccag 2580
gcctcccagc agcagtcctg agcagaggac tggccaacca agcgcaccag gtgacacttc 2640
agtgaatggc cctgtatgac gggtgacgtc tgctgtgct gactgaggac tgcagaccgc 2700
caccactcag gggctctgga ggggtcagct ggagcccacc aagctgtcac tgctgcactc 2760
actctgcaag ggatcaggac cagcaacctt tatattctag attctaagac attgtacaga 2820
gaaattcaga agtgtaaaaa tattgcacat tgacaaatac caagaatttt tgcgtatggt 2880
tatattgtat tgttctaaat aatgggtagc ctgtgaaata agatcttgcc acccatgtaa 2940
taatagtagt aatactatag ttaaaatggc tgtaagaata gttttataaa agtgaataca 3000
cagatctatt gtatttgaaa cataactttg acaattatta gtgtgaccaa agtattaggc 3060
ggttttcata catttttcac cttgtacaaa attatgaatt catttttcct ccaggccgac 3120
aaggagtgtt agaatgaaaa tgccctctaa gtgttatttt ggttgttcta acttacaaaa 3180
gtgattttga ataagaaata ttigtgttc tttttataac cagttttga ttggtaatg 3240
ttttctgtat tgtttaaaac ggatcaaaaa tgtaagtcta ttggtagaga ttaagtaaag 3300
tatttattgc tacatcatag ttgataaatt gatgttatcg taaagccata tgttctgttc 3360
aagtcttggt tgcttgaaat gattattcct acaagtgaac cactagacta tttggagtgt 3420
atatggcttg tgttttggga tttttttttt tttttttggc ttttgttttt gtttgttttt 3480
ttgtttcgtt tggtagttca tctgcctttt aaccattca ccaaattta cttgttaac 3540
aagcatcacc aatgaacatt tcagagcaat ctgcataatt aacagaccta aaataaatcc 3600
tattaggcaa gtcagttgaa aatgctcgtg ctgctaattg aattagagtg cgttcatttt 3660
acaggctagt attttaaaag tagaaatcaa aatctggcac cgaagcatgc taattgttta 3720
ctgtaccttg tgaggttttc actcataaat ttaaaccagt gtattttttt agaactgggt 3780
tgtgtatata tatagtatt atggatacta attcaatgta atttataatt ttctatgtca 3840
atacaaaaat acatcacagc cttctcaagc agctcaagca atatattgta tattgccata 3900
tcgtctgggtg aaagggttaa attacttcac ctcttgcaact tttagatgca aatcagtttt 3960
tcatttctgt aatagaaaat tattcacgta tttttacatc atttgttttt cctgaccagt 4020
atttaaaacc aaaaggatat tctgaaaaat ggccaacaat ttttttagaa gtagcatccc 4080
aagcagcgtg cctaaacatt acattgcata tggaaataaa agaatacaac gtc 4133

<210> 637

<211> 4877

<212> DNA

<213> Homo sapiens

<400> 637

```
agctatgcaa acacgctgcg agcggccttg agagcccag gaggtctgc tttctgggcc 60
cctgcagagg gcaggggtcg cgggctggtg gtctgccccg cccagagaga aagggccttg 120
gcttcccctc attcttcgtt ctgtgttagc tctttttatt gcaaataatt aattaaagtc 180
agtacagcaa gagtgggaaa gtggttaatg caattgccag gtccagattc agagggatga 240
ggcgccgaaa ggaaagacaa ccttgggatc gcttccactt cctccacttc gcaccgcatg 300
gccggcaagt tggcggctct cgcctgctcc cagttttccc ggagttgagt atggttgact 360
ctgactggac caggttgggt cacgtgtcgg ccctgagcca atcagcttgc ccagagagat 420
gatgcgccct gagtggaggg tgaacctggt gataggcccc agagtggcca gagaggaagg 480
gcatgcgcac accatagacg taggcaacgt ggtggacgac atgggggctg ggcggggggtg 540
ctgctcacc ccttgtgcc cagtgtttt ccttcccctt gtccatggtc ccctagcttg 600
gggagaaaagc aggtgtcttg ctctaccgc cagtgtgtc tcggggctgc agggagtgtg 660
ggctgccctg cttgcggtct tctactccaa ctactgtgg ctttgcagag ctggagtccg 720
ccctatctgg gcttgggggt ctgctccctg agagcattat ttggtgcccc tcgactgtgt 780
tgattcagaa atctgggacc tgttgtttct cgactaaatg tcttatgaga tcagtctttc 840
ttttggaggc aaacattttc ggaagttttg gaaccatgat gttctatgcc tcagacactt 900
gtggtccctg agaagctgct gctggaaaaa ggggtcccca tccgatccc aggagagggt 960
tcttggatca tgccgggaag gaatccaagg cgagtggcag agcgcagtga aaagagatag 1020
tttattgaaa gcttctcagt tacatagtag ggcatcctca gcaagaggag gaatgcctct 1080
gttttgtttc tttcttatat aggggtctta tctatgtaaa agctaagcta cgtctccctg 1140
cgggtaggct gacaaagtga catttattac tttgttgatt gaaagaaagc tatccttggc 1200
attttagtgc ataagtacat caaagcatgc ctataatcat cttaaaagca tatattatgc 1260
aatattgggg catctggaca ttctgttggt gcaagagttt gtctttgcag gtattaagct 1320
```

acttcgtcag ctgtaaacad cttatgactg tgggtcatga ctggcaagga atgtgccttg 1380
ctagtttttaa gatggaattg attctaaaaat ggtgtcacca tggctcccct acgtctctgt 1440
tcccctaaaa aaaccctgcc gtaagcggac ttaaggatag ccttgtcacc ctagcaatgt 1500
ggcagtgaat ctctgccaat agcaatctac aaatgttaaa aacttttctt tttctggaaa 1560
agtactttcc atgcattaag tattccagtg cctgttttcc tggcactggg ctggatgtat 1620
atgacataaa atttgcagta ttgctccacc cccaaactgc tctgcatttt ggccctcctc 1680
catctctgat ggcttttctt tccctgtgct gcagggaact actggagacc acgtgccgcc 1740
tggccaacac gctgaagagg catggagtcc accgtgggga ccgtgttgcc atctacatgc 1800
ccgtgtcccc attggctgtg gcagcaatgc tggcctgtgc caggatcgga gctgtccaca 1860
cagtcacttt tgctggcttc agtgcggagt ccttggctgg gaggatcaat gatgccaagt 1920
gcaaggtggt taccaccttc aaccaaggac tccggggtgg gcgcgtgggt gagctgaaga 1980
aaatagtgga tgaggctgtg aagcactgcc ccaccgtgca gcatgtcctg gtggctcaca 2040
ggacagacaa caaggtccac atgggggatc tggacgtccc gctggagcag gaaatggcca 2100
aggaggaccc tgtttgcgcc ccagagagca tgggcagtga ggacatgctc ttcattgtgt 2160
acacctcagg gagcaccgga atgcccagg gcacgtcca taccaggca ggctacctgc 2220
tctatgccgc cctgactcac aagcttgtgt ttgaccacca gccaggtgac atctttggct 2280
gtgtggccga catcggttgg attacaggac acagctacgt ggtgtatggg cctctctgca 2340
atggtgccac cagcgtcctt tttgagagca cccagttta tcccaatgct ggctcggtact 2400
gggagacagt agagaggttg aagatcaatc agttctatgg tgccccaacg gctgtccggc 2460
tgttgctgaa atacggtgat gcctgggtga agaagtatga tcgctcctcc ctgcggaccc 2520
tggggtcagt gggagagccc atcaactgtg aggcctggga gtggcttcac aggggtggtg 2580
gggacagcag gtgcacgtg gtggacacct ggtggcagac agaaacaggt ggcactctgca 2640
tcgcaccacg gccctcgga gaaggggcgg aaatcctccc tgccatggcg atgaggccct 2700
tctttggcat cgtccccgtc ctcatggatg agaagggcag cgtcgtggag ggcagcaatg 2760
tctccggggc cctgtgcac tcccaggcct ggccgggcat ggccaggacc atctatggcg 2820
accaccagcg atttgtggac gcctacttca aggcctaccc aggctattac ttcactggag 2880
acggggctta ccgaactgag ggcggctatt accagatcac agggcggtat gatgatgtca 2940
tcaacatcag tggccaccgg ctggggaccg cagagattga ggacgccatc gccgaccacc 3000
ctgcagtacc agaaagtgtc gtcattggct acccccacga catcaaagga gaagctgcct 3060

ttgccttcat tgtggtgaaa gatagtgcgg gtgactcaga tgtggtggtg caggagctca 3120
agtccatggt ggccaccaag atcgccaaat atgctgtgcc tgatgagatc ctggtggtga 3180
aacgtcttcc aaaaaccagg tctgggaagg tcatgcggcg gtcctgagg aagatcatca 3240
ctagtgaggc ccaggagctg ggagacacta ccaccttga ggaccccagc atcatcgag 3300
agatcctgag tgtctaccag aagtgaagg acaagcaggc tgctgctaag tgagctggca 3360
ccttgtgggg ctcttgggat gggcgggcac ccaagccctg gcttgcctt cccagaaggt 3420
accctgagg ttggcgtctt cctacgtccc agaagcagcc cccaccccac acatgaccca 3480
caccgccctc acgtgaagct gggctgagag ccctttctcc catccattgg aggtcccagg 3540
agtgtcacc atggagaggc tatgcgacat ggctagggct ggttctgcca tctgagtttg 3600
gtttcctgga atgaaaaggc attgccatct ccattcctct gccctcttga gccagcacag 3660
gaaggatgaag ccctgggata gcgcgcctgc tcagataaca caaagctagt tagctagtag 3720
caaccgtgtt ttctccagat ctgtctagat acaaaggcca gaaatcttat tttatactt 3780
ttatatgtg gaagaacagc atgcaacact cacatgtagt gtgtggattt acttgaacat 3840
gttcttttta acatgtagtt atgaaaatct ccttttttgc ctctactggt gaggaaacat 3900
gaggatcaga ggccacattt ttaattattg ttagtgtatt tggaagtctg aattggagat 3960
gtttgtacct ctgtctaaat agttcccttg agaacttcca agcctccggc atcttttctt 4020
ggtgagtgtt tctcctgtgc ttggttgtgt ataattggagc taactcctaa gcggtgggg 4080
gaatgtggcc gccttagttc tgaagctact ccagttatgt tctgtttctt caagctgtga 4140
tccagaaaga tttttgtgcc cccagatgcc tcttgatagg agaggcaaca tactccaaat 4200
agttgggttc ttcagggaag ctattagaaa ctcagggtgac ttgttagagc actaacttgg 4260
tcagagccaa atcctggcaa acgctgcctg accttcactc tgtggttggg gcagtgagaa 4320
ccactgaggt ccaatgatga gacttggagg tctggatcca gtctctctt gttttaatgt 4380
gacttaggtg ctgtcaacat tagcaagata atggaaatca cgacgccagt ggggtgcttac 4440
ctccctgcta ggcatgcagg ggctggcggg tggcagggga aggaggcca gtgagccggg 4500
tcccttaggg gagggagagt ttgtcctctt tgccccacag tctacccttc agggccttgt 4560
ggcagtgcc gtgttcgggg ggtgtcttggg cactgagta cccactcggg cgtggttgtg 4620
ctggcctctt ggggtgagtga acctgtgaag cccaggaggt ggtgttggct gcagggtaca 4680
caaatactga gtggtggtct tttgttacag gcttagcaac aaagctgtgc cctgggcatg 4740
gggggctgta gtgtagctac agttgtgcgt ttgtgaaatg gcttagcttt ccatgttgct 4800

gagaggaacc tggacatggt cccgggcac tgaatgatct gtaggggagg gagttcaaat 4860
 aaagctttat tttgttc 4877

<210> 638

<211> 4211

<212> DNA

<213> Homo sapiens

<400> 638

agactccggt tactggggag caacacagcc gcctcgggtt gcagacgctc ctgtccgggt 60
 cgcagtggga cgccatggag cgctccctgc accgcgtctc cctcgggagc cggcgtgccc 120
 acccggactt gtccttctac ctcaccacct ttggtcagct gaggtgtcc attgatgccc 180
 aggaccgggt tctgctgctt cacagtctct ttattcgtgt ggatggatat gtctatgtgt 240
 gtctctcttt ctcgctgtgt gtgtgtgtat gtttccattc atccaccca atgtctgaat 300
 tctcttttag ttatagaagg taaaggcctg atcagcaaac agcctggcac ctgtgatccg 360
 tatgtgaaga tttctttgat ccctgaagat agtagactac gccaccagaa gacgcagacc 420
 gttccagact gcagagaccc ggctttccac gagcacttct tctttcctgt ccaagaggag 480
 gatgatcaga agcgtctctt ggttactgtg tggaacaggg ccagccagtc cagacagagt 540
 ggactcattg gctgcatgag ctttgggggtg aagtctctcc tgactccaga caaggagatc 600
 agtggttggt actacctct aggggagcac ctgggccgga ccaagcactt gaaggtggcc 660
 aggcggcgac tgcggccgct gagagacccg ctgctgagaa tgccaggagg tggggacact 720
 gagaatggga agaaactaaa gatcaccatc ccgaggggaa aggacggctt tggcttcacc 780
 atctgctgcg actctccagt tcgagtccag gccgtggatt ccgggggtcc ggcggaacgg 840
 gcagggctgc agcagctgga cacggtgctg cagctgaatg agaggcctgt ggagcactgg 900
 aatgtgtgg agctggccca cgagatccgg agctgcccc gtagatcat cctactcgtg 960
 tggcgcattg tccccaggt caagccagga ccagatggcg gggctctgcg gcgggcctcc 1020
 tgcaagtcga cacatgacct ccagtcaccc cccaacaaac gggagaagaa ctgcacccat 1080
 ggggtccagg cacggcctga gcagcgccac agctgccacc tggatatga cagctctgat 1140

gggctgctgc tcggcggtg ggagcgctac accgaggtgg ccaagcgcg ggccagcac 1200
accctgcctg cactgtcccg tgccactgcc cccaccgacc ccaactacat catcctggcc 1260
ccgctgaatc ctgggagcca gctgctccgg cctgtgtacc aggagtatac catccccgaa 1320
gaatcaggga gtcccagtaa aggggaagtcc tacacaggcc tggggaagaa gtcccggctg 1380
atgaagacag tgcagaccat gaagggccac gggaactacc aaaactgccc ggttgtgagg 1440
ccgcatgcca cgcactcaag ctatggcacc tacgtcacc tggccccaa agtcctggtg 1500
ttccctgtct ttgttcagcc tctagatctc tgtaatcctg cccggaccct cctgctgtca 1560
gaggggctgc tgctgtatga agggaggaac aaggctgccg aggtgacact gtttgcctat 1620
tcggacctgc tgctcttcac caaggaggac gagcctggcc gctgcgacgt cctgaggaac 1680
cccctctacc tccagagtgt gaagctgcag gaaggttctt cagaagacct gaaattctgc 1740
gtgctctatc tagcagagaa ggcagagtgc ttattcactt tggaagcgca ctgcgaggag 1800
cagaagaaga gagtgtgctg gtgcctgtcg gagaacatcg ccaagcagca acagctggca 1860
gcatcacccc cggacagcaa gatgtttgag acggaggcag atgagaagag ggagatggcc 1920
ttggaggaag ggaaggggcc tggtgccgag gattccccac ccagcaagga gccctctcct 1980
ggccaggagc ttcctccagg acaagacctt ccaccaaca aggactcccc ttctgggcag 2040
gaacccgctc ccagccaaga accactgtcc agcaaagact cagctacctc tgaaggatcc 2100
cctccaggcc cagatgtctc gccagcaag gatgtgccac catgccagga accccctcca 2160
gccaagacc tctcacctg ccaggaccta cctgctggtc aagaaccct gcctcaccag 2220
gacctctac tcaccaaaga cctccctgcc atccaggaat cccccaccg ggaccttcca 2280
ccctgtcaag atctgcctcc tagccaggtc tccctgccag ccaaggccct tactgaggac 2340
accatgagct ccggggacct actagcagct actggggacc cacctgcggc cccagggcca 2400
gccttcgtga tccctgaggt ccggctggat agcacctata gccagaaggc aggggcagag 2460
cagggctgct cgggagatga ggaggatgca gaagaggccg aggaggtgga ggagggggag 2520
gaaggggagg aggacgagga tgaggacacc agcgatgaca actacggaga gcgcagtgag 2580
gccaagcgca gcagcatgat cgagacgggc cagggggctg aggggtggcct ctactgcgt 2640
gtgcagaact cgctgcggcg ccggacgcac agcgagggca gcctgctgca ggagccccga 2700
gggccctgct ttgcctccga caccacctg cactgtctcag acggtgaggg cgccgcctcc 2760
acctggggca tgccttcgcc cagcacctc aagaaagagc tgggccgcaa tggtggctcc 2820
atgcaccacc tttccctctt cttcacagga cacaggaaga tgagcggggc tgacaccgtt 2880

ggggatgatg acgaagcctc ccggaagaga aagagcaaaa acctagccaa ggacatgaag 2940
aacaagctgg ggatcttcag acggcggaat gagtcccctg gagcccctcc cgcgggcaag 3000
gcagacaaaa tgatgaagtc attcaagccc acctcagagg aagccctcaa gtggggcgag 3060
tccttggaga agctgctggt tcacaaatac gggtttagcag tgttccaagc cttccttcgc 3120
actgagttca gtgaggagaa tctggagttc tggttggcctt gtgaggactt caagaaggtc 3180
aagtcacagt ccaagatggc atccaaggcc aagaagatct ttgctgaata catcgcgatc 3240
caggcatgca aggaggtcaa cctggactcc tacacgcggg agcacaccaa ggacaacctg 3300
cagagcgtca cgcggggctg cttcgacctg gcacagaagc gcatcttcgg gctcatggaa 3360
aaggactcgt accctcgctt tctccgttct gacctctacc tggaccttat taaccagaag 3420
aagatgagtc ccccgcttta ggggccactg gagtcgagct cagcggtcac accaggcggg 3480
ctgggtcccc tgcccacctg cctccctgcc ccctgtgacg gagggggcaa gcaagcccc 3540
agaggccgtg tctctggaca gacggataga catacggaag cgaggcctgg accaagagag 3600
gcccaggcta ctggaggagt agaaggatgg gccccgtggg gtccccactg ccccggtacg 3660
agggggccca agaccctggc aggtcagggg ccctggccaa gccagatctg gagctgctgc 3720
tccctgctgc ggagaccgcg gaggccttcgc gttgaccaag ttccttaaag aactggctga 3780
tggggcagga ggtccaggcc tgggctctcg ggccctccta gagggccatt ggagcttgca 3840
gctcagacct ccactttgag ttttatattat ttaaatagta gttggatgct tggcacgtcg 3900
tcctgtaata ggaaaccctt gcctcatcag ttttcctgat ttacaagtgc aatatttttag 3960
ccaatgcctt gggagaagct gccatgcaaa ggtggacacc attctccagc ttcaggggat 4020
atgctcgtcc cgggcaccgg tggcaggcag ctggccttct ggactaaggc agcctggggg 4080
gacactgcag tctggctaca cacagagatc tggcaccccc tgggtggagt gtcctcggg 4140
ggctttggga aagcatggca ccctcagacc acacagtagc caagttctgg agcaaataaa 4200
aggcctgtgt t 4211

<210> 639

<211> 4581

<212> DNA

<213> Homo sapiens

<400> 639

aaaagacagc ttttcttcct ggagaacaga ctttttcagc aggattttcc tttcagtga 60
acataatttg acttgaaagg aaccacagga aaagtgtcca ggtgtgagca tgagcgggta 120
gaggtgtgcc cttgtttgct tcaggctgtc tgcttttcgc ccctgactgt tttttctgtt 180
tctggccatg gaggaagaga aagatgacag cccacagctg acggggattg cagttggagc 240
cctcctggcc ctggccttgg ttggtgtcct catccttttc atgttcagaa ggcttagaca 300
atttcgacaa gcacagccca ctctcagta ccggttccgg aagagagaca aagtgatgtt 360
ttacggccgg aagatcatga ggaaggtgac cacactcccc aacacccttg tggagaacac 420
tgccctgccc cggcagcggg ccaggaagag gaccaagggtg ctgtcttttg ccaagaggat 480
tctgcgtttc aagaaggaat acccggccct gcagcccaag gagccccgc cctccctgct 540
ggaggccgac ctcacggagt ttgacgtgaa gaattctcac ctgccatcgg aagtctgtga 600
catgctgaaa aacgttcggg tcctgggcca ctttgagaag ccgctgttcc tggagctttg 660
caaacacatc gtctttgtgc agctgcagga aggggagcac gtcttcagc ccagggagcc 720
ggaccccagc atctgtgtgg tgcaggacgg gcggctggag gtctgcatcc aggacactga 780
cggcaccgag gtggtggtga aagaggttct ggccgggagac agcgtccaca gcctgctcag 840
catcctggac atcatcaccg gccatgtgc accttacaaa acggtctccg tccgcgcggc 900
catcccgctc accatcctcc ggcttccagc tgcggctttt catggagttt ttgagaaata 960
tccggaact ctggtgaggg tggtgcagat catcatggtg cggctgcaga gggtgacctt 1020
tctggctctg cacaactacc tcggcctgac cacagagctc ttcaacgtg agagccaggc 1080
catccctctc gtgtctgtag ccagtgtggc tgccgggaag gccaagaagc aggtgttcta 1140
tggcgaagaa gagcggctta aaatgccacc gcggctccag gagtccctgtg actcagatca 1200
cgggggcggc cgcccggcag ctgctgggcc cctgctgaag aggagccact ccgtccccgc 1260
gccttcatt cgcaaacaga tcttggagga gctggagaag cccggggcag gtgaccctga 1320
cccttcggcc ccacaagggg gccagggcag tgccacttct gatctgggga tggcatgtga 1380
ccgtgccagg gtcttcctgc actcggacga ggaccccggg agctccgtgg ccagcaagtc 1440
caggaaaagc gtgatggttg cagagatacc ctccacggtc tcccagcact cagagagtca 1500
cacgatgag accctggcca gcaggaagtc ggatgccatc ttcagagctg ccaagaagga 1560
cctgctcacc ctgatgaagc tggaagactc atctctgttg gatggccggg tggcgcttct 1620

gcacgttcct gcaggcacgg tgggtgtcaag gcagggagac caggacgcca gcatcctgtt 1680
cgtgggtctcg gggctgtctgc acgtgtacca gcggaagatc ggcagccagg aggacacctg 1740
cttgttcctc acgcgccccg gggagatggg gggccagctg gccgtgctca ccggggagcc 1800
tctcatcttc accgtcaagg ccaacaggga ctgcagcttc ctgtccatct ccaaggccca 1860
cttctatgaa atcatgcgga agcagccgac cgtcgtcctg ggtgtggcgc aactgtgggt 1920
gaagaggatg tcgtccttcg tgcggcaaat cgactttgcc ctggactggg tggaggtgga 1980
ggccgggcca gcaatataca ggcaggggga caagtccgac tgcacgtaca tcatgtctcag 2040
cggccggctg cgctctgtga tccggaagga tgatgggaag aagcgcctgg ccggggagta 2100
cggccgagga gacctcgtc gcgtgggtgga gacactgacc caccaggccc gggcgaccac 2160
ggtgcatgcc gttcgggact cagaattggc caagctgccg gcaggagccc tcacgtccat 2220
caagcgcagg taccacagg tgggtgactcg gctgattcat ctcttgggtg agaagatcct 2280
gggcagcctc cagcagggac ctgtgacagg ccaccagctt gggctcccca cggagggcag 2340
caagtgggac ttggggaacc cggctgtcaa cctgtccacg gtggcagtga tgcccgtgtc 2400
agaggaagtg cccctcaccg ccttcgccct ggagctggag catgccctca gcgccatcgg 2460
cccgaccctg ctgctgacta gtgacaacat aaaacggcgc cttggctccg ctgccctgga 2520
cagtgttcac gagtaccggc tgtccagctg gctggggcag caggaggaca cccacaggat 2580
cgtgctctac caggcagatg gcacgctcac accctggacc cagcgtcgcg tgcgccaggc 2640
cgactgcatc ctcatcgtgg gcctgggtga ccaggagccc acagtgggcg agctggagcg 2700
gatgctggag agcacagctg tgcgtgccca gaagcagctg atcctgctgc acagggagga 2760
gggcccggcg ccagcgcgca ccgtggagtg gctcaacatg cggagctggg gctccggcca 2820
cctgcacctc tgctgcccgc gccgcgtctt ctccaggagg agcctgcca agctgggtgga 2880
gatgtacaag catgtcttcc agcggccccc ggaccgacac tcagacttct cccgcctggc 2940
gagggtgctg acgggcaacg ccattgccct ggtgcttggg ggagggggag caagaggctg 3000
tgcccagggtg ggcgttctca aggccctggc ggagtgcggc atccctgtgg acatggtggg 3060
aggcacgtcc atcggggcct tcgtgggtgc cctgtactct gaggagcgga actacagcca 3120
gatgcggatc cgggccaagc agtgggccga gggcatgacg tccttgatga aggccgcgt 3180
ggacctcacc taccatca cgtccatgtt ctccggagcc ggcttcaaca gcagcatctt 3240
cagcgtcttc aaggaccagc agatcgagga cctgtggatt ccttatttcg ccatcaccac 3300
cgacatcaca gcctcgcca tgcgggtcca caccaacggc tcctgtggc ggtacgtgcg 3360

tgccagcatg tccctgtccg gttacatgcc ccctctctgt gacccgaagg acggacacct 3420
gctgatggac gggggctaca tcaacaacct cccagcggat gtggcccggg ccatgggggc 3480
aaaagtgggtg atcgccattg acgtgggcag ccgagatgag acggacctca ccaactatgg 3540
ggatgcgctg tctgggtggg ggctgctgtg gaaacgctgg aacccttgg ccacgaaagt 3600
caaggtgttg aacatggcag agattcagac gcgcctggcc tacgtgtgtt gcgtgcggca 3660
gctggagggtg gtgaagagca gtgactactg cgagtacctg cgcccccca tcgacagcta 3720
cagcaccctg gacttcggca agttcaacga gatctgcgaa gtgggctacc agcacgggcg 3780
cacggtgttt gacatctggg gccgcagcgg cgtgctggag aagatgctcc gcgaccagca 3840
ggggccgagc aagaagcccg cgagtgcggg cctcacctgt cccaacgcct cttcacgga 3900
ccttgccgaa attgtgtctc gcattgagcc cgccaagccc gccatgggtg atgacgaatc 3960
tgactaccag acggagtacg aggaggagct gctggacgtc cccagggatg catacgcaga 4020
cttccagagc acctcagccc agcagggctc agacttggag gacgagtcct cactgcggca 4080
tcgacacccc agtctggctt tcccaaaact gtctgagggc tcctctgacc aggacgggta 4140
gaggcctctg ctaaagagcc cggatgcagc gtcttccgtg ggactgtccc caaggctgag 4200
gtccttgcca agtcctaggg gcctctgtac ctgccctgct ggaagccctg acttccccgg 4260
ggccccaggc tgtgttaggg ttctctgggc ctcttctttg taccagcagc cctgcataca 4320
gggccctgtg agccccctg cagtctgtg aggccctga agctctgtga ggcccctgaa 4380
gtctgtgaa cccctgcag ccctgtgagg cccccgaag ccctgtgagg cccccgaag 4440
ccctgtgaac cacctgctgc cctgtgaggc ccccaaagct ctgtgaactg cctgctgtcc 4500
tgtgaactgc ctgctgccct gtgaggtgtg ggagccctga tgctgccgtg tgatgtttca 4560
ataaaggtgg atctcactgt t 4581

<210> 640

<211> 3660

<212> DNA

<213> Homo sapiens

<400> 640

tttccagttt acatagaaat cccaggaccg tgggaatgca tattgagggc ctgggagaat 60
ggtaggagga acacagagtt agatcaggcc aagtttattg atacgggctc actaagcaga 120
gattccgcat ttagaaaggg ctctaattgg ttggttggct gcttggctga aacatgggcc 180
aaaacatggc ccaccatggg ataactggac atgcctggcc gcccatggtt agtgtagaag 240
aagggtattca aaggcttagg gagattggaa tgctagagtg gatttgtctg ccccatgctg 300
ctttcgttcc cctgctagag tggatttgct ctcctattc tcctcttct cctcctctgc 360
agccctccac taccctctc ctacatcct cctcctctc cagtcctct cctctctccc 420
ttccctgca actctccacc actctcttc tccactgca gttctctttt cttttagacc 480
ctcctctcc tccctgcca gctctctcc cctccctg caatactct cctcccttg 540
cagccttct cctctctc ctcccgtgc agccctccac cctccttccc tgcagctcta 600
ctcttttctt ttagccctc ctcttatcc agccctccac cctccctg gcagccctac 660
tccctccct tctctctct gtctgcagcc ttcaactccc tctctctct atacttctct 720
ccctcatctt ccctcaggac ccagccctaa tgccagcacc ccaagcctt gctgaccctt 780
agcagggaag ctcccgactg ggtgcacgcg gccgtgccca ggaactctgg ttcgggcctg 840
ctgcagggt cgtttgcctc tccagcgggt gctctcaggt gctgcgggtgc cgtggccaag 900
gagccacaca agaaggccca cgacctgtgt ccctcagctt tgtgcatctg cttctccggg 960
acggggcccc cttgagggca ggcttggtgg accaccctgt ttcccatgag gccttgccca 1020
ggccttctg tggacactgg acacgggtga ctgaacctga agtgtagat gtttctaaga 1080
tctcatgaag tgtgagatgt ttctaaaatc tctacatggg ccgaccacaa cctgctatct 1140
tctgctactg tgtgccatgc tagagctccc ctaccctggg aaaaacgcc aggggtgcct 1200
gcggcccggc tctctcggt tccctgatc catccaggga aaaaaccca ggggtgcctg 1260
cggcccggct ctctcggtt cccctgatcc gccagagaa caaacgccag ggtgcctgc 1320
ggcccggctc tctcagttc ccctgatcca tccagggaac aaatgccagg tgccctgagg 1380
cctggctctc ctcatctc cgatcgggtc cagtccattt tcattcattt cactttggctc 1440
tcctgtctgt ctgtgcctct gggccaaact cattgcaggg ccatggcccc gggcaggccc 1500
caccttctg ctttctgatg cagcgatatt cttccctttt taggacctca ctctgtcgcc 1560
caggctggag tgcagtggcg cagtcttggc tcattgcaac ctctgcctcc cgggttcaag 1620
tgattcttgt gcctcagcct cctgagtagc tggaattaca ggcgcctgcc accacgcctg 1680
gctaattttt ctatttttca tagagatggg gttttgcat gttggccagg ctggtctcga 1740

actcctgacc tcaagggatc caccacctc ggctcccaa agtgctagaa ttacaggtgt 1800
gagccaccgc accagctga cattctctc ttaaagcctg tctgatgcca gctcaggcca 1860
cagggcacat taggcttctg acaaagctgg aggacaaggc cccctcgcat gccccatcct 1920
ctcctcgccc cccctcccc cgagtgcctc cttcgaagcc ctgcctccct ctatcatgcc 1980
ctccccccac gcagcctcaa gaaacatgaa gaggggacct ctggggtggt ctggcaacgc 2040
ctgcctggtg gacagcagat gggagagaag gaaagcagcc ggtaggagaa gagacagagg 2100
aaaggggagg aggaagccca tgctcaaggt gcccctcctg cccaggcttc ctgccagatg 2160
cttcttggat caaatacttt gttatatattc cagcacaaga aagtgatgtt acaaacacta 2220
agagaattca gagaaacagc aggatttaaa gtagcacaca gagatctttg tgcatacttt 2280
cagttcaaag acagagtgga agagatgacc catTTTTAAC agcaacaaaa agataaaaat 2340
ccccatgcgt aaaagaaatg tgaaacccta aatgggaaaa actttaaata gaccataaag 2400
acaccaaagt cgattTTAAC accaccatgg tttgaatgaa ttccccaaaa gttcatgtgt 2460
tggaacctg gactccaatg cagcagtgtt gggatgggat tctggggagg tgattggctc 2520
atgaggacta atccattcat ggactaatgg gttctcaggg agtggagcag ttatcaccag 2580
ggggctggtt ataaaagcca gctttgccgt ctctcatgag accctcacat aatgcccggc 2640
accacttgag actgcagagt cttgaccagc aagaaggtcc tcaccagatg caactcctat 2700
accttggaact cctgcctcc agaactgtaa gaaataaaat tcttttcttt ataacttacc 2760
cactctgtgg tattcagtca tagcaacaga aaatgaatta agacagaaag aaagaccatg 2820
ttcctggata agaaaactct cctaagcaag acaattctac aaaagtaaatt ttataaatgt 2880
aatgtaatcc ttataaaaac gccgcatgct tttccccaga tctagaaaac taattataaa 2940
gttcttgtga gagaggaagt gcacaggagt gtaaaaatag ccaggaaaac tctgcaaaag 3000
aaatggagag gtcctctgcc cccgaaccat ctctggcct ccgtaatgga accacatgac 3060
accaggaccc atgtaggcaa gcaggcccag ggacatgaaa acccggggac agaccccagt 3120
gcctagaaca ttcagtctat aaggtagcat atgataccgg tgaggaaagg atggacttgt 3180
taatacaagt ggttaaactg taaccacttg gagaaagacg aaaatgaatc tgcacttcat 3240
accatacact aagacaaatt ccaaatgggt caaaagtact aggaaaaagt gaattccttc 3300
atcaccgggg agtgggcaaa atcttcttaa atatgactta aaaccagga gtgataaaag 3360
acaaaatgta tactgggaaa aaagttttat aacatagcac attttcaaag tgctggtgac 3420
ttgagtggga agcagggcag tgactgtcgg ggactgaggg tggggggatg gtgttgaacg 3480

ggcgcggggt ctccttctgg cgtgatgaag gctttggaag cacacagaag tgatggttgt 3540
acgttatgaa tgtattaaat gctgctaaat tgtagacttt aagagatggg taaaatgggtg 3600
aatTTTTTTT accatctata ggactctgat aaaaatgttg ttttatgtat attttacctc 3660

<210> 641

<211> 3270

<212> DNA

<213> Homo sapiens

<400> 641

ttaaataattt gcttcctgaa aagatttggg gctttatagt cagttttttg agttactagg 60
tcctcagaga ttttggggag tagatgcagg aggagagaac gttatcagga aacaacagac 120
aagctcaaca atttcagcag catctaagag catgaaatat tagctattat ttttatgctg 180
gaaggaaaat aggaaactta aaaggagtag gttgtagaat ccatgcctac aggtaactga 240
gtaagtgcc aagtaaataa ggcatagtga gtgcctataa attcagaaaa gagagattaa 300
catggaatta ccgtgaatat gtttatagaa aaaagtaaatt ttgaaataag acgcctgaaa 360
tgtactagcg atcttaacta ctttaacta gccatggttt ttgctgttat gctcttaatt 420
tgcagaacct gcctattcaa cccttattac cttatgggtca cactagggtt tgcttatgaa 480
ggacatgctt gctgtgaaac aaacttatct gtttcctctt ttgaactatg ttatcattat 540
gtcattctca gtcaccccat tgcttgttgt gttcctgagt cagagggtta ctttgttctc 600
ggcctcatat ttcacttttg attctgatat tagtcacaag gggattcaga gaacttgcaa 660
ataaacccat tcacaaattc atcacacttg ctgacaaatt aaacaatgcc cttctgtggg 720
tggaatgtca tttgtatgaa aaaaagaatt gtttaactgca tcctttcagc cttactcctt 780
ccccatgcta tgccttcttt gtgacagtac ttattacaac atccagaaga gggtaaattg 840
gggttgggga ttgagggaat gaaaagaaaa taaaactcag ttttttggct cccttgcccta 900
tcagttttta ctgtagctat tatagacggg gagatgcagg ctttctgaac acagtggcat 960
gtgcacttga gtaggcctgt gtcctgcccc agatggagct tggatgtctg cagggtggaag 1020
aaggccattt ggacttgagc catctttgat gtccaaatca ctaagcaggg accatgcaaa 1080

gacacaggag ggaggccatg agggcatcaa gccagatgag cttgccagcc tcagcaacca 1140
gccagggatg ggggcagggc tgcccaagta ggtggggcag gaagcccagc cctcaacaaa 1200
accctattat attctttgtc ttagtgagga agttcttact gttgtgtgta ttattggaag 1260
acatcttctg tgatagggtt attattgcat gtacagagag attccttgga accgcatatg 1320
actcaatcta tctcactcag atttctcacc ataccttcac ttattttgct gcagtgtcca 1380
gcagatctcc ttgaaacagt gtgtactgaa gacctaacta aatcctccaa attacctggt 1440
tggttcagag aaccaaata ctggagcttt gtagggaagg tttgactttc agggcttttag 1500
ccagagtaac ttatttaatg attggctttt aatgtgtttc tgtgcaaaga tcaaagcagg 1560
tgaattttca tgtattttta gaattctagt agaaaaggaa gataggaaaa tctagttcaa 1620
gtatacatc tagtttttag gggaatttgt gtttttattt tacttttttg gttgctacga 1680
tttgtcctat attctatatt tataagaaca taaatatgta attaaaagaa tatatttgat 1740
ggcactacct gtcaacaaag ccacttattt gtgaaatttt ttggtaactt gatggaaata 1800
gtcacatttt atccattgaa aactacaaag ctcttatcta ttgttctttg tgtatattta 1860
tgcattaaaa atagatcctg caggatgagc aaatgtactg aagtgtaaat ccgtttttta 1920
agagaggcta tatggaaaaa tatatcattc aagactcagt ctctgccttg cctataggcc 1980
tcgtcagtgt ttagtgaatg acctcaacct tgttttttc cttccttctt tgggtggttga 2040
ggacagacaa tgaatggtct ctgtactcgc ctgggctcag ctgggtggtg gccattatgc 2100
cattgtgctc actggagagg gctgccgggt ttgtagagct gcggatcccg accttcctg 2160
acattgcaa tctcttttct ttcagctcca ccagcccatt ggagaaaagt tactgttcag 2220
tccctgaagg cttgtgccat aaaagagtgg gagacattcc caggagattt cagcacccat 2280
ttggactttc acaatcagag atggcagcgg taaaggcatc aacatcgaaa gctaccaggc 2340
cttggatttc tcatccggtat tatgcaagat actggcaaca ttatcatcaa gcaatggctt 2400
ggatgcaaag ccatcacaat gcctacagga aggccgtgga atcctgtttc aatcttccat 2460
ggtacttacc ttctgcgctt cttccccaaa gctcttacga taatgaggct gcgtatcctc 2520
agtccttcta tgaccatcat gtggcctggc aggactacct ctgcagttct tcacatttca 2580
gaagatctgg gcagcatcca cgttacagca gtaggatcca ggcattccaa aaagaagacc 2640
aagctttgtc caaagaggaa gagatggaga ctgagtcaga tgcagaggta gaatgtgacc 2700
tgagcaatat ggaaatcact gaagagctcc gccagtactt tgcagagacc gagaggcata 2760
gagaagaacg acggcggcag cagcagctgg atgcagagcg cctggacagc tatgtgaacg 2820

ctgaccacga cctgtactgc aacacccgcc ggtcggtaga agccccaact gagaggcctg 2880
gtgagcggcg ccaggccgag atgaagcggt tgtacgggga cagtgctgcc aagatccaag 2940
ccatggaggc cgcggtgcag ctgagctttg acaagcactg tgaccgaaag cagcccaagt 3000
actggccggt catccccctg aagtctctgag ctcagggcac agggtacca gcctctcctt 3060
cttccttttg ggtacacgct ctttatctct ccttctgtac atttcttagg gaaaggggac 3120
tttgtactgg ggtacaggca tgttcaccac agtcccagtg ggcctgtcac ggggtggatg 3180
tactatgccca gccacttgga ggtctgcagg acatgttctg ttgccaacat gataaatttt 3240
ctcctgacat aaaataattt tgcataact 3270

<210> 642

<211> 3492

<212> DNA

<213> Homo sapiens

<400> 642

aggtaaaatt ttcgcaaagc gaacatatgt gtgtaaccag cattcagatc aggaaacaaa 60
acgttaccgg catcccagaa ctccccttta tgttctctc tagccactat actcccttca 120
gaggtaacca ctaacaccta attttgacce cttacataaa tcttagctgc ttgtttcttc 180
actgtattct gaaaatactg acttataaag ttaggaatgg aaaggactaa cttgctctgt 240
ttcttctttc catagcacgt ttttggttca gttaagcttc agagtcagga acaatttatt 300
taactttttg tttgattatg ggaatattta gaaatatgtg catgtcattc taataataag 360
tttttctatt tgtggaattt ttatgatttt ccaagtgttt tctcatatgt tttctttgat 420
cctcattcac ataaggatga aatatacatt ttgtcatgtg aaagtattat attactgtcg 480
ttatttgttt tttgtttttt tgagacggag tctcactctg tcgcccgggc tgggtgtgcag 540
tggcaacatc ttggctcact gtaacctctg cctctcaggc tcgagcgata ctctgcctc 600
agccccccaa atagctggga atgcgggtac acgtcactac acccagctta ttgttctgtt 660
ttttgtagat acagggtttc atcatgttgc ccaggctggg ctcgaaccg tgagctaaag 720
ccatccacct gccttgacct cccaaagtgc tgggattaca ggtgtgagcc actgctcacc 780

gcctactgtc actatttgtg ataataaaat tgtttcttgg taatgttaca tattctcaaa 840
tggtaccatt tattttccaa aaactaatta attttatttt tctttaaaaa ataattgttt 900
atgcaggttc ttgaattagt gttggaaaac tttgtttatc cgtggtacag ggatgtgaca 960
gatgatgaat cctttgttga tgaactgaga ataacattac gttttttttg catctgtctt 1020
aataagaagg attcacaagg tggatattcc atctattata accaagaaac tattaaaagc 1080
agcaatgaag catatagaag tgatagttaa agccagacag aaagtaaaaa atacagagtt 1140
tttacagcaa gctgctttag aagaatatgg tccagagctt catgttgctt tgagaagtcg 1200
aagagatgaa ttgcactatt taaggaaact tactgaactg ctttttcctt atattttgcc 1260
tcctaaagca acagactgca gatctctgac cttacttata agagagattc tgtctggctc 1320
tgtgttcctt ccttcttttg atttcctagc tgatccagat actgtgaatc atttgcttat 1380
catcttcata gatgacagtc cacctgaaaa agcaactgaa ccggcttctc ctttggttcc 1440
attcttgcaag aaatttgcaag aacctagaaa taaaaagcca tctgtgctga agttagaatt 1500
gaagcaaadc agagagcaac aagatctttt atttcgtttt atgaactttc tgaacaaga 1560
aggcgcagtg cacgtgttgc agttttgttt gactgtggag gaatttaatg atagaatttt 1620
acgaccagaa ttatcaaatg atgaaatgct gtctcttcat gaagaattgc agaagattta 1680
taaaacatac tgtttggatg aaagtattga caaaattaga tttgatccct tcattgtaga 1740
agagattcaa agaattgccg aaggcccata catagatgtt gtgaaacttc aaactatgag 1800
atgtcttttt gaagcatatg aacatgttct ttcctttttg gagaatgtat ttactcctat 1860
gttctgcat agtgatgagt atttcagaca acttttaaga ggtgcagaat caccaacacg 1920
caattcaaaa ttgaacagag gtagcctaag tttggatgat tttcggaaca cacagaaaag 1980
gggagaatca tttggaatca gcagaatagg tagcaaaatt aaaggagtat tcaaaagtac 2040
cacaatggag ggagctatgt tgcctaatta tgggttagct gaaggtgaag atgattttat 2100
tgaagaaggt attgttgtaa tgggagatga ttctccagtg gaggtgtga gcacacctaa 2160
tactccccga aaccttgctg catggaaaat tagcattcca tatgtagact tttttgagga 2220
tccctcctct gaaaggaagg agaaaaaaga aagaattcct gtgttttgta ttgatgttga 2280
aagaaatgat agaagagcag ttggacacga gcctgaacat tggctctgtc atagaagata 2340
tcttgaattc tatgtacttg aatcaaaact aacagaattt catggtgcat ttcctgatgc 2400
ccagcttcct tctaagagga tcattggccc caaaaattat gaattcttaa agtcaaagag 2460
ggaagagttc caagaatatc tacagaaact tctgcagcat ccagaactga gtaatagtca 2520

acttctggca gactttcttt cccctaattgg tggggaaaca caatttcttg ataagatact 2580
 accagatgta aatcttggga aaattataaa atctgttcct ggaaaactaa tgaaagagaa 2640
 aggtcagcat ttggaacctt ttatcatgaa tttcattaat tcttgtgagt ctccaaagcc 2700
 taaaccaagt agaccagaac tgaccattct cagccctact tcagaaaaca acaagaagct 2760
 tttcaatgat ctgttttaaaa ataatgcaaa ccgtgctgaa aatacagaga gaaagcaaaa 2820
 tcagaattat tttatggagg tgatgactgt agaaggagtc tatgattacc tgatgtatgt 2880
 aggacgggta gttttccagg ttcctgactg gcttcatcat ctcttaatgg gaactcgaat 2940
 cctctttaa aacaccctgg aaatgtatac tgattactat cttcagtgt aactagaaca 3000
 gctatttcag gagcaccgtt tggctctact cataacactt ctcagagatg ctatattctg 3060
 tgaaaacact gaacctcgct ctctccaaga taagcaaaaa ggagcaaaac agacttttga 3120
 agaaatgatg aattacattc cagatctgtt agtcaagtgt attggtgaag aaaccaagta 3180
 tgaaagcatc agacttctgt ttgatggctt acagcaacca gtactcaaca agcagctgac 3240
 ttatgtttta ttggacattg tgatacagga actgtttcca gagctcaata aggtacaaaa 3300
 ggaagttacc tctgtgacat cttggatgta aacacttggg tttggtatag aataacccat 3360
 tgaaatttct gctgtgcgag ggtggtagaa atttactttt ttgggtatat tcttatatat 3420
 attatgtaca tcgctgtctg aaattttagt tattttttgt ttttaataaa gactaacaca 3480
 aacttaatga tt 3492

<210> 643

<211> 3182

<212> DNA

<213> Homo sapiens

<400> 643

gtgtggccac agatggttgt tgagctgcat tgctgacctc caggaatgta taagaaagcc 60
 taaagcaagc aattaaacag ccaactggaag tgataacact tgggagtttg attatcctta 120
 tgtcagaagg aaaatttgta ttttctcttt attgtctata aaagataaaa atttagataa 180
 gggcaactta acttttaaaa atctccagtg gcaataaaaa aatcttcatt accacatttc 240

tgttgaattg tattttaaag ttcctaataa aatgacatca tttactggga aatgcttctt 300
tttcttttga aaacaatatg acttcagccc tgggtatttt tttatttggt tcttaagatg 360
atttttctgt ttatctcata catccttgaa aagaagctac aaaaattttt ttttgttttt 420
tttttggtgt tgtttattga cagtcttgct ctgttgccca ggctagagtg cagtggcacg 480
atctcagctt actgcaacct ccacctccca ggttcaagca attctcatgc ctcaggctcc 540
caagtagctg agactacagg tgtgcaccac catgcccagc taatttttat attttttagta 600
gaaacagcat tttaccatgt tggccaggcg ggtctttaac tcttggcctc aagtgatcca 660
cctgattcgg cctctcaaat tgctgggatt acaggcgtga gctatcacac ccagcctaag 720
ctgcaaacat ttcttaatcc aagtgcacaa agactatctc catctctata accactaaag 780
ccagccattt tcatttttag aatctgtttg ggatatgtgg ctgtttccaa cttttcttta 840
ggagagtgtt ttgcaggctt tttcgctcca tagctcttcc cccaagactg tcggttctaa 900
ccttgcttct cctcctcatt cgctgcacat atacccttc ccctatctaa ataaattgca 960
gacttctaaa atttagaatg gagaaaaact ggtacattct ttgtcctgca caagaaagag 1020
gtggtaacag gaatgtctga gaaaaaacga atggcctagt gactctgtga tgcaggaaag 1080
gttgccggtc tgcaaatcat agaaactgag gaccccatcc tagtagctgc tactcctgga 1140
aagtccccac gttctctgtg gagtccactc catggctcac tcagtttctg cagatggaaa 1200
gtccccggtc gtcctttctc atgtttccct ctcttcccag ggcaggatag cgtgtgccaa 1260
tgtcctcagt gacctctatg caatgggggt cacggaatgt gacaatatgc tgatgctcct 1320
tggagtcagt aataaaatga ccgacaggga aagggataaa gtgatgcctc tgattatcca 1380
aggttttaaa gacgcagctg aggaagcagg aacgtctgta acaggcggcc aaacagtact 1440
aaaccctgg attgtcctgg gaggagtggc taccactgtc tgccaacca atgaatttat 1500
catgccagac aatgcagtgc caggggacgt gctggtgctg acaaaacccc tggggacaca 1560
ggtggcagtg gctgtgcacc agtggctgga tatccctgag aaatggaata agattaaact 1620
agtggtcacc caagaagatg tagagctggc ctaccaggag gcgatgatga acatggcgag 1680
gctcaacagg acagctgcag gactcatgca cacgttcaat gcccacgccg cactgacat 1740
cacgggcttc gggatttttg gccatgcgca gaacctggcc aagcagcaga ggaacgaggt 1800
gtcgtttgta attcacaacc tcccgggtgct ggccaagatg gctgcggtga gcaaggcctg 1860
cggaacatg ttcggcctca tgcacgggac ctgcccggag acttcaggcg gccttctgat 1920
ctgtttatca cgtgagcaag cagctcggtt ctgtgcagag ataaagtccc ccaaatatgg 1980

tgaaggccac caagcatgga ttattgggat tgtagagaag ggcaaccgca cagccagaat 2040
catagacaaa ccccgatca tcgaggtcgc accacaagtg gccactcaa atgtgaatcc 2100
cacacccggg gccacctctt aatctagaca gaaatagctg tttggttttg tttttaaata 2160
gatctatttc ccttatcact tcaattaaag actataaaca acaaaaatct cattgtgtct 2220
acacatcggg gtgaccttag gtcggtttgt aagtggatac aattaataaa ataaaatcca 2280
ttgccttttt ttcctgttac attaaactgaa gatgcaccta atcttgaggc agcttctgag 2340
ttgagaatta tattgttata caatactgtt gattcatttt gaatcttttag acacttatct 2400
cttgccgcat aggcttttta aaggtgcttt cacatagcac aggcattacc cgtagtcgtg 2460
tcaaatagca gttggtgtct tcattttatg tataattatc atataagtct gatttttttt 2520
ttttaagcgt cttgaatggt tttctggaga gacagcattg gtaagtggca catgacggta 2580
tcccagtcac aagagggttg catgattcct ttgagtgttt gatttgaaaa gcctagtctt 2640
gtctctcaag agcatctcgg acccagaaca ttctccagta gtgcattcag ttcaacacag 2700
caagtgcctc attgcatgga aaacactttg aagacaaaaa agaaatctta tttctttttt 2760
tgtagccttc ctgatattta cagtaatacc attaaactgtt ttatcgatag caaaaaagga 2820
tactttttgc aatgttatta gatgttctat agtgctacaa ggaattgcct tccgaatgga 2880
ggttcattgta taatactcat ttacaattca atatataatt acacaaataa tttttaaata 2940
taatcaatag taaagactgt tctgtggatg gtagtgttta atacattttc tattttgtac 3000
agtgatttca ggccttttgt tttcttaaaa tcagcagctg tttggcctaa ttcttagcat 3060
tattttgtcc tttgcgccag tacttttttg tgcacgcttt ttgtgatctg tgttaaaaac 3120
ctgcattgcc aacattgcag ctggaactta aacttgttat tcaaataaat atttaatttt 3180
tt 3182

<210> 644

<211> 3273

<212> DNA

<213> Homo sapiens

<400> 644

ttcagcaaaa caagctatcg atcaggggaag atctccagtt ataatagata acactaatat 60
acaagcttgg gaaatgaagc catatgtgga agtggtaaat atgaaacatg agaaagtttt 120
tattttttat tcttgtcaat tttttcacat tctaaaattt tggctggttg gatcttgatt 180
attaaaacat ttgtcctttg ttttctaaag aggtttgttg gtttgcttag tttttaaaaa 240
aattgtgaat gatgtttttt aaggaacatg ttcacttctg taatttttgt ttgttttttt 300
gagacggagt ctgctctgt caccaggtt ggagtcagtg ggcaccatct tggctcactg 360
caagctccgc ctccccagtt gaagcgattc tcctgcctca gccacctgag tagctgggat 420
tataggtgcc tgccccatg cccagctaata ttttgtattt ttagtagaga cagggtttca 480
ccgtgttggc cgggctggtc tcgaactcct gagctcagcc catctgccgt gctcagcctc 540
ccaaagtgct gggattacag gcatgagcca ccacgcccag cctcatattg ttttgacttt 600
ccttaaggat agtaatctta aggaattact attccttgag aatagtaatc aaaattttatc 660
cggttaaata gtcttaactg ttataaacca tattatttta taaagcgtca tttttcttgg 720
tcgagcaagt gtatagtatt gtcgaaatga aatttaactg tctgccttct ttttacttta 780
agaagtactt ctttgggttt ttgttttctt cctttccttt gtgtaggcca taggaaaagg 840
atacagagta gagtttcatg aacctgaaac ttggtggaaa tttgatcctg aagaattaga 900
aaagaggaat aaacatggtg tgtctcgaaa gaagattgct cagatgttgg atcgttatga 960
atatcaaatg tccattttcta ttgtaatgaa ttcagtggaa ccatcacaca aaagcacaca 1020
aagacctcct cctccacagg ggagacagag agaaagagtt ttgaagaaaa ctgggcatag 1080
gctcagcaaa accaaacaga agaggaacag aaaaagaaac aaaaagcaga acagtcagaa 1140
tagaatcatg gaggaaaact cattagaatt cttaagtgat cttacaccgg gagatcagga 1200
cccactcag agtgaagagg aagacattga aaagaccaga agagaatcag aatatccctt 1260
cattgatggt ctacaaaatg aagtcggaga ttttgtgact ggatataaag aaaaaagatg 1320
gaaaaataaa gacctaag acagtttcca aaacgttatg tctatagttg aattagacaa 1380
cacaccaaag aattacctct ctaaggaagg tgataacttg tttgtaagtt tgttactgag 1440
gccaaatgaa atctccgtta cttgtccaat actgactcaa aacctttcct gtgtaacaac 1500
tgatgactgc tctggcatga aggtagaaaa gcatattaga aataggcata ccatagcatt 1560
agacaccag gacctttctg cggaaacttc atgcttattt atgaagaaga gagaaatagt 1620
agataaaaat ctctcacatg aaccatttct gtgccatcaa catggaatca gaatgtcaga 1680
taaagtttta agagaggaac aagtgtatac aactaaaac aatcactggg cttttttcac 1740

aaccaattta tctgatgaag atttacagct gggctctgac agacagccct attttggttag 1800
ctggcctgca ggacctcata agtttatatg tgaacagaga ccaaagaaag atagagcatg 1860
taagttaggt ggtcctgaca gcagggggca atggattcaa atgatcttca cttcggtggc 1920
agcatcagaa ccaggaaaca atccagaaat attgacagac aaactactga taggaaatga 1980
agatttttca cctccacctg aaactatgga ttcattcata gaaacaaacc tcttcagaag 2040
ctgcttacct caaccggata taccaaagaa tgccttagaa tcaacaaaaa ataagaaaag 2100
gaggaagaaa aggattttca atttggtacc aaattttgac ttattaggac agagtcgtat 2160
cgggtgtaaaa gaaagggaga aatgtgacct gttaacaaaa aaccatggac taaaaattac 2220
tttgggagaa gaaaaagata gaatttcaga aaggaacagt gaagaggaga ataaacaaaa 2280
acttatgacc tttgatcatc atccattgtg gttttacctt gatattatca aagctacccc 2340
tttaaatatt gatggacagc gttattctca ttgcctgtca tttaacagac taaggtgctc 2400
tgcattctta tacaaaaatt atattccttc ttttgtgcta cataatttat ctagtatttg 2460
gaagccatct tttaacaaca agaaactgtt ttgactttc gaatctcaga caagagtagg 2520
taataaacta aatgatgcag ggtttatttc tccagaaatt ttacatagtc atcctgatac 2580
ttcgtgctct ttgggagtca cttctgattt tcacttttta aatgaaagg ttagatagaaa 2640
gctgaaaaga tgggaagaac ctaaggaatt accagctgag gacagccaag acttaacaag 2700
cactgactac cgttcccttg agctaccatt atcacaaggg tttgcctttc aattagtaaa 2760
gctttttgga tctccaggcg ttccaatgga atccttggtg cctgatgact atgtggttcc 2820
ccttgactgg aagacactaa agatgatcta cttgcaatgg aagatgtcag tggagaaaag 2880
acagaagaag attggttgaa aaatgaaaat tccttgaact ttgagttctg ctgtcttcat 2940
ggtactgctg aagatcatga tcacggagaa aagtcagagt gctcagtgcc aaccaaggg 3000
attctttcca gagacgtacc cgttggatac caaaattagt ttggataatc tgttcaacca 3060
ttatatagcc tcgatgatga gagagttaca aagaacaaaa ctccagacac aaacctcaa 3120
atttttcagc agaagcactc tgcgtcgctg agctgaggtc ggctctgcga tccatacgtg 3180
gccgcacca cacagcacgt gctgtgacga tggctgaacg gaaagtgtac actgttcctg 3240
aatattgaaa taaaacaata aacttttaat ggt 3273

<211> 3242

<212> DNA

<213> Homo sapiens

<400> 645

```
gttaatctct tttggcaaca ccctcacaga tacaagcagg atcaatactt tgcattcctt 60
caatcaagtt gacacttagt attaaccatc acactcagca tttcttttcc ctttaatctg 120
ctcgtctgct cgattttctca ggactggatg aagacagcat tcttttcaaa gccccccagt 180
catatttaat tactcctatg ctctcaattc tgggcacccc cacctgggtgc ccagtgggtg 240
tccccgcct gttgttcttg agagctctct gccagctgt cttttccctc ctgccctctg 300
gctttctctg cactcaggtt tgttccccct cctctctcct gccggcctgg cttttctctg 360
tctccccctc ggccctgggtg ctgcccttgct ctgcagctgt tcatggctgc cccagggcct 420
ttagagaacc aagtggttct ggccttgaag gcattttaca atctgtttcc aagcctcctc 480
ctcactgcca ctgccccctc acaccacagc ccacctcctg gtccctgcag acacgtggct 540
ctcccttggtg gtaaggcctg cctccagcca gctgggcatt ctccacggc tcccagcctc 600
atctctttcc ccaaaaatgt tatctataat tcaacactga atccaatttc acctcctttt 660
ttccacttct ttcttgtagc gtctttcatc tccatttgct aattcacttc ctccattcat 720
tcattatcct acccattctt ggtggctgcc atgtgcatgc gaggcctcta gggatagaaa 780
tgaaaggcat tgaggagctg acactctggc tggggacaag gcactctgag tgcagtctg 840
gctttgttaa ggactacctc tctgaccaca ggaaagtac ttcagtgtca gatcttcac 900
tgtgagatgg ggaatgttac tgccctcctt aaagtggaat tctaggagcg agtggggcag 960
cacatgtcac aggctcaatg ctgcatttg gaggaggctg ctggcctgct gaggtctgag 1020
aacctcaaca tgtgtgccta tcccagacat gtgtgcttat tgttttgagt ttcttggaa 1080
ttggaggcag cagctccagg agaacagggg ccttatccat tgcttcatct tcttcagagg 1140
aaagtgagtg tcacttatag gcataccttg gttgataatg ctttgcctta ttgggcttca 1200
cagagatcat gcgttttcca aattggaggt ttgtggcaac cctgtgttga acaagtctat 1260
tgacgccgtt ttttcaacct cgtgtgctca ctttgtgtct ctgtcacatt ttgataattc 1320
tcggattttt cacacttatt atatctgctt tggatgatctg cgatctgtga tctttgaagt 1380
cactattgta aatgtttgga ggtgccacga actgcatgtg tgtgaaacgg tgaacttaac 1440
```

tgataaatgc tgtgtgtgtt ctgactccag aacacagggt tccagtgatc ggccattctc 1500
ctgtctctcc ctctcttcag gcctccctat tccctgagat acacaatacc aaaattaggt 1560
caattaataa ccttacaatg gcctctaaag tgttcaagtg aaaggaggcc ttgcacatct 1620
ctccctttaa gtcaaaagct tgaaatgatt aagcttagtg aggaagccac atcgaaaagc 1680
ctagatagga tgaaagctag gcctcttgtg ctgaacagtt agccaagttg aggatgtaag 1740
ggaaaagtgc tagaaggaag ttaaacgtgc tactccagtg aacacaggaa tgataagaaa 1800
gtgaaacagc cttatagctg atacagagga agttttaatg gtctggatag aagatcacac 1860
cagccacaat attaactgaa gcctaatacca gagcaaagcc ctaactttct tcagttccat 1920
gaaggctgag agaggtgagg acgctgcaaa agacaacttt gaagctagca gagattgggt 1980
tatgaggttt aaggaaagga gccatctccg taacataaaa gtgtaagggtg aaacagcaag 2040
tgctgacgga gaagctgcag caagttgttt aggagatcta gctaagatca ctgatgaagg 2100
caactacact aagccacaga ttttcagagt agatgagaca gccttctact ggaagaagct 2160
gccatctagg actttcatag ctagagagaa gtcaatgcct ggcttcaaag gacaggctga 2220
ctctcttgat aggacagtg cagctggtga cttaaagtag aggccaatgc tcagtgacca 2280
ttcccagaac cctagagcct attaagaatg atgctaagtc tgcctgtgct ctagaaatgg 2340
aacaacaaag cctggatgac agcacatctg tttatagcat ggtttactga atatttaaag 2400
ccaactgttg acacctaccg ctagaaaaa gactccttc taatatgact gctcattgat 2460
aatgcacctg gttgcctgag gtctctgatg gaggtgtaca aagaggtgac tttggtttca 2520
acatccatgc tacagcctgt ggatcaagga gtaattttga ctttcaaate ttattatcta 2580
aaagccacat ttcataaggc catagcttcc atagatagtg attcctttga ttgatatggg 2640
ccaagtaaat tgaaaacctt ctagaagtcc aggtgcggtg gctcaagcct gtaatcccag 2700
cactttggga ggccgaggtg ggtggatcac ctgaggtcag gaatttgaga ccagtgtggc 2760
caacatgggtg aaaccctatc tccactaaaa atacaaaaa tatctgggtg tgggtggcagg 2820
tgcctgtaat ccagctact tgggaggctg aggctagaga attgcttgaa cctgggaggt 2880
ggaggttgca gtgagccgaa attgtgccat tgcactccag cctgggtgac agagcaagac 2940
tgcactctca aaacaaaaca aggccaggcg cggtggctca ctcctgtaat ctcagcactt 3000
tgggaggccg agggggacag atcacagagt caggagatca agacgatcct aactaacgtg 3060
gtgaaacct gtctctactc aaaatacaaa aaattagccg ggtgtggtgg tgggcgcctg 3120
tagtcccagc tccttgggag gctgaggcag gagaatggcg tgaacctggg aggcagagct 3180

tgcaatgagc cgagatcgca ccactgtact ccagcctggg tgacggagcg agactctgcc 3240
tc 3242

<210> 646

<211> 3425

<212> DNA

<213> Homo sapiens

<400> 646

ctatgttgcc agtgagaggt gaggatgatg accagctgta agtgtttaaa tgtttatctt 60
cagatgcaga ggttgtggta ggaaccacaa ggccagagac gctgcctgga gatgtggctg 120
tgcccggtca tccagacgac tcgcgataca cagtaatacc cagtgcgctc ctgcactctg 180
gccccccctg ccaatggcct tctcttctct tgggttttaa atggtggctc tttctctctt 240
gcttctactt ccttttctct agacttctct cagtggttct gattggactc cctcctctc 300
ttatagtttt tctgtagctc aggggttgac aaactggccc atggtcctaa tccagcttgc 360
ggcctttttt tttgagacag agtctcgctc tgtcaccaag gctggagggc agtgggtgtga 420
tcttggctca ctgcaacctc cacctcctgg gttcaagcaa ttctcctgcc tcagcctcct 480
gagtagctgg gagcgtggca ccatgcccgg cacgtgccac cacaccagc taattttttg 540
tatttttaca aaaattagta attaatTTTT ttttaagtaat gtaattttta agtaatgtta 600
tttagtagag acggagtgtc actgtgttag ccaggatagt ctcgatctcc tgacctcgtg 660
atctgtcac ctcggcctcc caaagtgtg ggattacagg cgtgagccgc cgcgcctggc 720
tgcttgacgc ctttatatta tccatggctg ctattatata cctctccag ttctgtgca 780
gtggcataat agagtaattg tgccgagaat gaatttgtct ctaggcccaa aagcctaaaa 840
tatctacatt ctggcccctt aagagtttgc tgaccttgct ctagcttgct accttccact 900
ttctaccttc ttattcctgg ggttctcag cccagccca gacccttcca acctcacag 960
gtgcctgtcc ttgatccctc tcccttccct tcagcatcta cacgggagac agcttcgtca 1020
ccccttgatg gggcagcctc tccccctcat cacagactat gctgttcagc cacatgtggg 1080
cacgggggca gtgaaggtga ctccagctca cagtcctgcc gatgctgaga tgggggcccc 1140

acatggcttg agcccccttga atgtcattgc ggaggatggg accatgacct ccctctgcgg 1200
ggactgggttg caggtcttca ccggtttgtg gcccgggaaa agataatgtc tgtgtctgagt 1260
gaacgggggcc tattccgggg cctccagaac caccatcatg tactgccccat ctgcagccgt 1320
tctgggggatg tgatagaata cctgctgaag aaccagtggg ttgtccgctg ccaggaaatg 1380
ggggcccgag ctgccaaggc tgtggagtcg ggggccctgg agctcagtc ctccttcac 1440
cagaagaact ggcagcactg gttttcccat attggggact ggtgtgtctc ccggcagctg 1500
tggtggggcc atcagattcc agcctacctg gttgtagagg accatgcgca gggagaagag 1560
gactgttggg tggttgggcg gtcagaggct gaggccagag aggtagcagc ggaactgaca 1620
gggaggccag gggcagagct gaccctggag agggatcctg atgtcctaga cacatggttt 1680
tcttctgccc tgttccctt tttgcctg ggctggcccc aagagacccc agacctgtct 1740
cgtttctacc ccctgtcact tttgaaacg ggcagcgacc ttctgctgtt ctgggtgggc 1800
cgcatggtca tggtggggac ccagctcaca gggcagctgc ccttcagcaa gtatggaggc 1860
cagagatccc aaggcacctc caaggaaacc cccctctgct gaccctccc tgccccagg 1920
tgcttcttca tcccatggtt cgggacaggc agggccggaa gatgagcaag tccctgggga 1980
atgtgctgga cccaagagac atcatcagtg ggggtggagat gcagttgctg caggaaaagc 2040
tgagaagcgg aaatttggac cctgcagagc tggccattgt ggctgcagca cagaaaaagg 2100
actttcctca cgggatccct gagtgtggga cagatgccct gagattcaca ctctgctccc 2160
atggagtcca ggcgggcgac ttgcacctgt cagtctctga ggtccagagc tgccgacatt 2220
tctgcaacaa gatctggaat gctcttcgct ttatcctcaa tgctttaggg gagaaatttg 2280
tgccacagcc tgctgaggag ctgtctccct cctccccgat ggatgcctgg atcctgagcc 2340
gccttgccct ggctgccag gagtgtgagc ggggcttcct caccgagag ctctcgctcg 2400
tactcatgc cctgcaccac ttctggcttc acaacctctg tgacgtctac ctggaggctg 2460
tgaagcccgt gctgtggcac tcgccccgcc ccctggggcc ccctcaggtc ctgttctcct 2520
gcgctgacct cggcctccgc ctctggccc cactgatgcc ctctctggct gaagagctct 2580
ggcagaggct gccccccagg cctggttgcc cccctgcccc cagcatctcg gttgccccct 2640
accctagcgc ctgcagcttg gagcactggc gccagccaga gctggagcgg cgcttctccc 2700
gggtccaaga ggtcgtgcag gtgctaaggg ctctccgagc cacgtaccag ctcaccaaag 2760
cccgccccg agtgctgctg cagagctcag agcctgggga ccagggcctc ttcgaggcct 2820
tcttgagacc cctgggcacc ctgggctact gtggggctgt gggcctgtta cccccaggca 2880

cagcagctcc ctccggctgg gcccaggctc cactcagtga cacggctcaa gtctacatgg 2940
 agctgcaggg cctggtggac ccgcagatcc agctacctct gttagccgcc cgaaggtaca 3000
 agttgcagaa gcagcttgat agcctcacag ccaggacccc atcagaaggg gaggcaggga 3060
 ctacagaggca acaaaagctt tcttccctcc agctggaatt gtcaaaactg gacaaggcag 3120
 cctctcacct ccggcagctg atggatgagc ctccagcccc agggagcccc gagctctaac 3180
 tcatcatccc catcagtttt cctccctctc agacctgtct ttgaggacaa acagatttgt 3240
 cagctgtcag ggtgcagtgg gacgtcagag actatgtggt ccatcgctt catttgttaa 3300
 atgaggacac agactggctt ggtcgcagtg actgtggtgt ccttgagatg ctcacattac 3360
 tgcccgccct gcctcccacc tggaagtctg ggaatgagga gattgagata aacttttgaa 3420
 atccc 3425

<210> 647

<211> 4218

<212> DNA

<213> Homo sapiens

<400> 647

ataccaccag ggggcataca taacattata aatcttaaat aggaaactag cagtttctgc 60
 atctaagtac tgaatttaat tatagtttaa tagctaaaag acaaagaaa cacagtgcaa 120
 aatattaata aattatttct cacagatgat ttttcttaca atagcacttt ctttctctgg 180
 agcatcatat cacaagtatc caaacatctt ttcaaatgtg caattcatcc tgaaagcctc 240
 ggaaattata ggtaaaagag aactccgttc tgaatccatt tttagacctg tggaagataa 300
 gaaaagatat gagaacacag attctgatat gggaggatat gaaattaacc acctgctctg 360
 gcaactgtgtt gctgcttggc cttgtgttca gaataacagt cctcagttga ataacgtgct 420
 tgaacatctc atcttccata agacacagct tcaaaagaaa tgctggttgg attcagtact 480
 ggctttactg gtccttgggg aggctgccaa attaaacatg gcctgcttga aagctttaat 540
 ggacgtagtg agagattttg tttcaagcat tatgtctgtt caaaatcagg aagaaagttg 600
 caaggtagat ggtttttcct gggcctggaa tgtagtctac atatatacag taattcttgc 660

agaaatctgc ttgtatgcag ccacttctga tttgcgaaaa actgctttaaa ttggtttctg 720
tcaactgtaaa agttcacaaa aaaatatattt atacttggac aaatcagtac ctccagaatt 780
aaaggaaaca agtatitttaa gtcttttggga atattttctct tcaaaaatgt cagagaactg 840
tgatcaagta gtctggactg gttactatgg cttagtgtat aacctgggtga aaatttcatg 900
ggaacttcaa ggagacgaag aacaggatgg acttagaaac atgatatggc aaacattgca 960
gaaaacaaag gattatgagg aagatgtacg aatccaaaat gcaatcaata tagctcagga 1020
aggaaaacca accagaaccc tggacaagct ttttctctaa tgggagagaa gttttatatg 1080
aagcaatgga tcttaggagc gtaataaatg gactttacag actgctatca ggtgccacca 1140
agatccccctg agatgctcct tccccctgctg ccaggggtat tgccagccaa gggctcaaag 1200
attaaaaatt gacctcagaa aaagctgtca acgtcatgca agtttatatc tcctctctgg 1260
gagcagtttc atcaatgatt tttagttgat gtgagatata aaggtccaat cccatactt 1320
caatttggga caatcttgaa ggccatcaga gctccagagc tgcctgtgta acaggttgag 1380
gctctgttgt gcctgcatta cacttcaacg cctccttggc ctcactctgc tttcctcagg 1440
acctcactga tgttctccct gggagtactc cccactgaat tatttgcaag tgaaactatg 1500
tgttgaggtc tgttttccag ggcagctacc ctaagacaaa tactgacaat cattagctgc 1560
tacacactca gaaaagagag gtgatgaaag cacagtgtct gtacttataa gaccatacct 1620
tgggcagtgt tttaggtcca tgttttaaga gtgtctgaca aactcaaag cacaagctgg 1680
tgaaatagct atagaaagca tcaaatgagg aagcatcagt caggagcttg gattttttaa 1740
tgaagtacat tagatttagg ttgattgtga tagctctctt tagatcattg aaaaactaac 1800
atatgagagg aagattggga attcatctta cattacccat aatatagatc taagatcaat 1860
aagtaaaaat tacagagcag atttcaattc agaatgaaaa gaaacacaat gcctgataat 1920
taaaaatttc aacaattgaa tgagttgctt tgaaagagaa tgagttccct gttattgaag 1980
ctatttgtct tagtctattc aggctgctat aacaaaaata tcagaaactg ggtagcttat 2040
caataataga aatttattca ttacagtttt ggaggctagg aagtccaaga gcaagggtgct 2100
agcagatttg gtgtctggta aaggcctgct ttctggttca tcagttatgt cttccagctg 2160
tgccctcaca tgtggaaggg gaagggcagc tctctgggat cttttaggat ggcactaatc 2220
ccattcatga gggttctgcc ctcagacct aagccttact gtcgccttgg gaattggaat 2280
ttcaatatag gaatttgagg atgagggaac acaaacattg ataccatagc agtatataag 2340
gagaagctgc ataatacttt ttgtggacat tgtagtata gttttgggggt cataaattaa 2400

atgaattatg aggtgtgtgt tagttttcta ttactctata gcaaactatc aaaaaagtag 2460
cagcttaaaa caatacatat ttatctcact gtttccatgg gtcaggagtc tggatgtgtg 2520
ttatctgcag ctcaccagtt tgaatcaagg agtcagctag gtctgggggtg tcctcttaat 2580
gcctggggcc ctcttccatg ctcaactctgg ttgggtgcaa ggtgcacagt ttcttggaac 2640
tcttgaattg aagtccttgt tgttttgctg tttggacagg ggactctcta agatactaga 2700
ggctactcct tgtttcttgc cacataccac catcctctgc cccccgcttt ggccctctgt 2760
attcttacac tcaaactctt ctccaggaag ggaccatgac cttttaaggg ctaactttat 2820
taggtcagtc caaatcagat aagtcaactg atttgtaatg tcatcgtagg agtgatattc 2880
catcatattc acagattcta cccatattta atggaagaca attatacaag gcatgtatac 2940
tagaagtcag gaatcttggg tccaggcccg tctcagaatt ctgcctgcca tattgtgctt 3000
tccacatata catctccaga attcaggtca ccacaatcat tcatggatga tactaaatt 3060
aaagatctca tgggatgaca aactgtactt cctgggctga cttttaacat gacatcagcc 3120
tcggtcctga gataataaga ccatctccag gttagttagt cctcagaggt tcctggtgag 3180
gttggcgtgg gatatgagtg tttagagcaa tgcccgtagc actccaggct tccccaggta 3240
tctccgaaac attgtggatc tagagatgat ttggaatccc cagaatttct gaggacccaa 3300
aagaatagtt gctgaacacc cagaacagtg tgtggtacta gaagatttct ggaaatagac 3360
tacaattttt cagggttaag ccatgaagag gttcgatttc cctccttctg ttctttgtct 3420
caattttcag cttttcatct ggagactaaa ggggttaggat tttgtgcaga attatgacag 3480
tagctcaacc gagaccctc cgtaaagaga gaaaggatgg aattactgga tagaaattta 3540
gatatggaaa gccatacaca ctaaggatct ggctacaaat gcctccgggc cctgaaggag 3600
gtgatacaga gacgattttc tgtcaccac aataagccag cctaactctgc tttcattgta 3660
tgtgtctatt gcttctgtg actgtgcccc tccaaatcag actgaaaata acccatttgg 3720
cttcaccaag gtgtgaaact aggagaaatc ctggctctcc tgacattttg gctcccagtt 3780
cctatatcac tggccctgag agagctgagc caagcaaaca gatctttatc tttgttcagc 3840
gagctgctta tctcatcctt gagcaggaac caagcaacct ttttaaataa ggggtgtaatg 3900
ttggacagac cctaaacaat aagtcttgtt ttgtacagaa attctaaaga aatggacact 3960
ctatataaaa ttatacaacc acatgaacac tgttctaaac taatattcaa gcagaatcaa 4020
agcatgctat tttttttgga taagcagtta acatatttga gctaaggctt ttgattttac 4080
ctctaaactt ataccacat aatttgaagt agactccacc ctcaattatt ttttattctg 4140

tgggcatgta tgtttgtgtg tattagtctg catatatgtc attgttctga taaaaaata 4200
aatccttata gaaaatgc 4218

<210> 648

<211> 3363

<212> DNA

<213> Homo sapiens

<400> 648

agcaaccctc gacatggcgc tgaggcggcc accgcgactc cggctctgcg ctcggtgcc 60
tgacttcttc ctgctgctgc ttttcagggg ctgcctgata ggggctgtaa atctcaaadc 120
cagcaatcga accccagtgg tacaggaatt tgaaagtgtg gaactgtctt gcatcattac 180
ggattcgcag acaagtgacc ccaggatcga gtggaagaaa attcaagatg aacaaaccac 240
atatgtgttt ttgacaaca aaattcaggt gaagccagtg acccctgtct gtagagtgcc 300
gaaggctgta ccagtaggca agatggcaac actgcactgc caggagagtg agggccaccc 360
ccggcctcac tacagctggt atcgcaatga tgtaccactg cccacggatt ccagagccaa 420
tcccagattt cgcaattctt ctttccactt aaactctgaa acaggcactt tgggtgttcac 480
tgctgttcac aaggacgact ctgggcagta ctactgcatt gcttccaatg acgcaggctc 540
agccaggtgt gaggagcagg agatggaagt ctatgacctg aacattggcg gaattattgg 600
gggggttctg gttgtccttg ctgtactggc cctgatcacg ttgggcatct gctgtgcata 660
cagacgtggc tacttcatca acaataaaca ggatggagaa agttacaaga acccagggaa 720
accagatgga gttactaca tccgcactga cgaggagggc gacttcagac acaagtcac 780
gtttgtgatc tgagaccgc ggtgtggctg agagcgcaca gagcgactt gcacatacct 840
ctgctagaaa ctctgtcaa ggcagcgaga gctgatgcac tcggacagag ctagacactc 900
attcagaagc ttttcgtttt ggccaaagtt gaccactact cttcttactc taacaagcca 960
catgaataga agaattttcc tcaagatgga cccggtaaata ataaccacaa ggaagcgaaa 1020
ctgggtgcgt tcaactgagtt gggttcctaa tctgtttctg gcctgattcc cgcatagaata 1080
ttagggtgat cttaaagagt ttgctcacgt aaacgcccgt gctgggccct gtgaagccag 1140

catgttcacc actggtcggt cagcagccac gacagcacca tgtgagatgg cgaggtggct 1200
ggacagcacc agcagcgcac cccggcggga acccagaaaa ggcttcttac acagcagcct 1260
tacttcatcg gcccacagac accaccgcag tttcttctta aaggctctgc tgatcgggtg 1320
tgcagtgtcc attgtggaga agcttttttg atcagcattt tgtaaaaaca accaaaatca 1380
ggaaggtaaa tcggttgctg gaagagggat ctgacctgag gaacctgct tgtccaacag 1440
gggtgcagga ttttaaggaaa accttcgtct taggctaagt ctgaaatggg actgaaatat 1500
gcttttctat gggctctgtt tattttataa aattttacat ctaaattttt gctaaggatg 1560
tattttgatt attgaaaaga aaatttctat ttaaactgta aatatattgt catacaatgt 1620
taaataacct atttttttta aaaagttcaa cttaaggtag aagttccaag ctactagtgt 1680
taaattggaa aatatcaata attaagagta ttttaccaa ggaatcctct catggaagtt 1740
tactgtgatg ttccttttct cacacaagtt ttagcctttt tcacaaggga actcatactg 1800
tctacacatc agaccatagt tgcttaggaa acctttaaaa attccagtta agcaatgttg 1860
aaatcagttt gcatctcttc aaaagaaacc tctcaggta gctttgaact gcctcttctt 1920
gagatgacta ggacagtctg taccagagg ccaccagaa gccctcagat gtacatacac 1980
agatgccagt cagctcctgg ggttgcgcca ggcgccccg ctctagctca ctgttgcctc 2040
gctgtctgcc aggaggccct gccatccttg ggccctggca gtggctgtgt cccagtgagc 2100
tttactcacg tggcccttgc ttcattcagc acagctctca ggtgggcact gcagggacac 2160
tggtgtcttc catgtagcgt cccagttttg ggctcctgta acagacctct ttttggttat 2220
ggatggctca caaaataggg ccccaatgc tattttttt ttttaagttt gtttaattat 2280
ttgttaagat tgtctaaggc caaaggcaat tgcgaaatca agtctgtcaa gtacaataac 2340
atttttaaaa gaaaatggat cccactgttc ctctttgcca cagagaaagc acccagacgc 2400
cacaggctct gtcgcatttc aaaacaaacc atgatggagt ggcgccagc ccagcctttt 2460
aaagaacgct aggtggagca gccagggtgaa aggcctggcg gggaggaaag tgaaacgcct 2520
gaatcaaaag cagttttcta attttgactt taaattttt atccaccgga gacactgctc 2580
ccatttgtgg ggggacatta gcaacatcac tcagaagcct gtgttcttca agagcagggtg 2640
ttctcagcct cacatgccct gccgtgctgg actcaggact gaagtgtgt aaagcaagga 2700
gctgctgaga aggagcactc cactgtgtgc ctggagaatg gctctcacta ctcacctgt 2760
ctttcagctt ccagtgtctt gggtttttta tactttgaca gctttttttt aattgcatac 2820
atgagactgt gttgactttt tttagtattg tgaaacactt tgccgcaggc cgcctggcag 2880

aggcaggaaa tgctccagca gtggctcagt gctccctggg gtctgctgca tggcatcctg 2940
 gatgcttagc atgcaagttc cctccatcat tgccaccttg gtagagaggg atggctcccc 3000
 accctcagcg ttggggattc acgctccagc ctccttcttg gttgtcatag tgatagggtg 3060
 gccttattgc cccctcttct tataaccctaa aaccttctac actagtgcc a tgggaaccag 3120
 gtctgaaaaa gtagagagaa gtgaaagtag agtctgggaa gtagctgcct ataactgaga 3180
 ctagacggaa aagtaatact cgtgtatttt aagatatgaa tgtgactcaa gactcgaggc 3240
 cgatacgagg ctgtgattct gcctttggat ggatgttgct gtacacagat gctacagact 3300
 tgtactaaca caccgtaatt tggcatttgt ttaacctcat ttataaaagc ttcaaaaaaa 3360
 ccc 3363

<210> 649

<211> 3649

<212> DNA

<213> Homo sapiens

<400> 649

ggtttttaat tgccaacaga tcctacaaag tcagtgcagc aagctctttt ttcttcagtg 60
 gtgtatttgt tggagttatc tcttttggtc agctttcaga tcgcttcgga aggaaaaagt 120
 ctatctcaca ggttttgctc ttgacatctt atttgcaatt gcaaattggat tttccccctc 180
 atatgagttc tttgcagtaa ctgcttccct ggtgggcatg atgaatggag ggatgtcgct 240
 ggtggccttt gtcttgctta atgaatgtgt gggcaccgcc tactgggcac ttgcaggatc 300
 gattggcggc ctcttctttg cagttggcat tgcccaatat gccctgttag gatacttcat 360
 ccgctcctgg aggaccctag ccattctggg taacctgcag ggaacggtgg tctttctctt 420
 atctttattc attcctgaat cacctcgttg gttatactcc cagggtcgac tgagttaggc 480
 tgaagaggcg ctgtacctca ttgccaagag gaaccgcaaa ctcaagtgca cgttctcact 540
 aacacacca gccaacagga gctgcaggga gactggaagt ttcttgatc tctttcgcta 600
 ccgggtcctg ttaggacaca ctttgatcct gatgttcac tggtttgtgt gcagcttggg 660
 gtattatggc ctaactctga gtgcgggtga tctaggtgga agtatttatg ccaacctggc 720

cctgtctggc ctcatagaga ttccatctta ccctctctgt atctacttga ttaacaaaa 780
atggtttggg cggaagcgaa cattatcagc atttctgtgc ctaggaggac tggcttgtct 840
tattgtaatg tttcttccag aaaagaaaga cacaggtgtg tttgcagtgg tgaacagcca 900
ttccttgtcc ttgctgggga agctgaccat cagtgtgcc tttacattg tttatatcta 960
cacctctgag ctttacccta cagtcacagc gaatgttggg cttggaactt gttccatgtt 1020
ctcccagatt ggtgggatta ttgctccctt catcccctca ctgaaatatg tgcaatggtc 1080
tttaccattc attgtcttcg gagccacggg tctgacctcc ggcctcctga gtttgttatt 1140
gccggagacc cttaacagtc cgctgctaga aacattctcc gaccttcagg tgtattcgta 1200
tcgcaggctg ggagaagaag cattatcttt acaggctttg gacccccaac agtgtgtgga 1260
caaggagagc tctttaggga gtgagagtga ggaagaggaa gaattttatg atgcagatga 1320
agagactcag atgatcaagt gaagagcccc agattcccc taagaagcaa aggatcgtct 1380
tttatgcctc tggctaaggc gggttcttcc atgactccta agagagttgt aaaaatagag 1440
gcttggcttg aatgtacata gatggtacct ggcatggact gatgttttta ggcacagaag 1500
ttggagaaga gatttcatga aagacaacat cactgcattg agagaatagt tgtaatttg 1560
tttagaattt aagtctact cagaatcata acatctggca gaacagccca aaccacatt 1620
ccaaagtggg aggctcattt gtttctagag atttcatcat gtcgcttttc cttcatcatg 1680
atctaaataa aggcagatat gtaaaatttc tcaccatttt ggtggggtaa gataagctat 1740
tattaagatt taatccttat accatgttgg acatttggcc ctatcagttg ctctcagga 1800
atcatctggg acaggttaac atcagcattt tcattttgta tccagggaaa agcaccagga 1860
ggatcatctg gtgtcccgag accctccagc ttttcttag ctgatgaaat atgagtcctc 1920
agcttgggtc ccagcctgct gattgacttg ggctgctggg gccttgagtc ccacagatga 1980
ttcattagga aaagccagat gtaccaaagc ggtttactca gagtcagggg tgtagctctg 2040
gctgcctgtc agtcccttg gatactatat tgtatgattt cttcctttcc cactaatatg 2100
cacatccaga aaaatttcca tctgagattc tagtacttca aaatcatgca tagtaaatga 2160
gaaagcttta agtagagggc agttaaacag tgacatgttg agcacctgga ggaaaaaaaa 2220
aggtgcagtt ttttaataaga gagaaaatga aattatcttt gataaatttt tgtttgtttt 2280
gctttcagca ttgtgccatg agggatttgg acaatattta agaacttctt gtcctagatc 2340
agccccaatc tgtttaatca aaatggaagg ttcagtaatt tcatgggaaa ccttggtttt 2400
tcattaagtg ctaccaactt tcaagtgaat cttgtatttg atttcctaaa atcatgtctt 2460

gaaaacatgt tttctcatga aacttgaata ctatctcaaa taggaatata aacctggagt 2520
caacaagctt aggcagcatt gatttaggtc actttcccag tgaggaaaat ttctgtgttt 2580
tcagaatttc catttctact aacctcttgg agaaaaagaa attgaattag aggtaaatag 2640
aagacgtcac tgtggctgct tctggaagtg ctggaagcat caccccaatt ggctccaaat 2700
actgtcatgt tttcttgcac actgacttct ggtttccact gtatcagtat gtacctttgt 2760
aattgttatt tttatgtctt ttatgccctt gattattagt tgggctcttc ataaacagag 2820
gccatctcta ctactgttta tttttccctg ctgtgcccag aacattggcg tagacacagt 2880
aagaacctag taaatattac tgtttctagc catcaggagag attgtggaac tcctcccagt 2940
ataattttta caaactccaa gcaaatctga cccaaactcc caaattgtca agtcctgctt 3000
aactttctct ggaaaataga ccccttctca acatcagaat aggaagagag gaagaactta 3060
caaagacact taaaagttat tcttaaatgg tggttgggca tttaaaacag tgaactaaca 3120
tatatataat ttttgattag ttggagcttt ctttgtatta tgagagtaat atatctcatt 3180
acagaaaatt tggaaactat aaatttagaa acgtatcacc catacgtcca acatcgaaag 3240
aaaaccagtg ttatgacttt gttccatttg aagactaatt gggagtccat ctctctattg 3300
gcactggggt cgattgcccc tggctaatag agttcaatta gttctatccc tgggtttcct 3360
ttcttagcta tgggggtggaa gataggaggg ggagatctac aatttgaata tgtgttactt 3420
aataaggcta ggctggccat cagttgctta tttcagatgt gtcactaaat tttctttcta 3480
gatggtcctt gagcaaaact taataattac tgttttttat ttccactgcc tttataaaat 3540
caaattttc tccttttgat aaaaactggt gaatactatt gatgtagaga atgtgtatat 3600
gtgtatatatt gcattgatta aattattgga aaacttttca ttgacaggt 3649

<210> 650

<211> 3977

<212> DNA

<213> Homo sapiens

<400> 650

atccccccca cccccgcca cgctcgccgg ggctgcccga ggcctgagcc aagggggacg 60

ctgtgggcgc ggctcaggcc aggccctcag tgctctggct attgctgaaa acaccttcta 120
gttccacctt gtaactggac tcccaaaaga tgaatgctga catcttctga tgcttaacaa 180
ggaataaaaa tagtcacctt aatcatcaaa aagttccggt ggtgaggaga cttttccaaa 240
tataagagga ataaagaagt cacctcccca gctgtcatca tcttcagca gattgagcaa 300
gaatattttg agcactacag gaaagacagt ccatcaaacc cgagatgatg atcagccacg 360
tgattttttc aagaagagga atagggtgaa tgaatctcat cagaaaagca gcaatatgaa 420
tgctggccca tcttggaaata aagtgaaca ttcaaagaat tcttcaggaa aaaggcagag 480
taaatcccaa gtacccacg cttcttccca gccgagaagc agcctcacag ctgtcaccca 540
gcctactgaa gaaaaactta aagaaagcat ttccccggaa gcaagacgca aaaggaatcc 600
actcggttcc aggtgtcagg gggcctcagg gaataaactg tttcttgatt ttcagtcaat 660
gaaaattatt aaagagaatg ctgatgaaga cagtgcaggt gatctctctg attcggaag 720
aattcccatt cctccttctc ccctcacacc tccagatctc aatcttcgag ctgaagaaat 780
tgatccagtt tactttgatc ttcaccctgg tcagggccat acaaaacctg aatactatta 840
tcctaatttc cttccatccc ctttcagctc ctgggacctc cgagatatgg ccctgcttct 900
gaacgcagag aacaaaacgg aagccgtgcc ccgagtggga ggacttcttg ggaagtatat 960
cgatagactt attcagcttg agtggctgca agtccagact gtacagtgtg aaaaagcaaa 1020
ggggggcaaa gcaaggcccc ccaactgccc tgggacctca ggggcactga aaagccctgg 1080
gagaagtaag ctaattgcta gtgctctgtc caagccacta cctcaccagg aaggggcttc 1140
aaagtcaggc cttcccgaa agaaagcttt tcacatgaa gaaatccacc catcacatta 1200
tgcatttgag acttccccta gaccattga tgtgcttggt ggtaccaggt tttgttctca 1260
gaggcaaacc cttgaaatga ggacagaaga aaagaaaaag aatcaagta agagtacgaa 1320
gctgcagcgc tgggatctgt ccggcagtggt aagcagctct aaggtggaaa ccagcgggtca 1380
cattcgagtt cccaacagg cagctgtgat tctggactca gcagattcct gtaaggcctc 1440
caaacacaa gcacatgcac atcctaggaa aaagggaaag gcagagagct gtggtcatgc 1500
cactgtatcg agtgagaaaa aactgaaaac aaacggagta aagcaaaaca catataaact 1560
aaaataaata tctaaaatgc tgaattgcca agacctgcag gtacctcaat gttagagcgc 1620
ttccaaaagt caaaatactg tgaattttaa ggaattttac aaatactgac atttaagtag 1680
ttgactggca tttttgtcca cttttatttc taccctgagt ggggttattt tcaaagggaa 1740
gtgtctttca ataagccttt ctttgtattg tcagtccttag gcaaagaga gccctttaga 1800

taaaaattat gtaaaatatg tgccatataa aggaataaaa tggcacctct ccagggaag 1860
tgtcagtga acctcagcta cagtagccgg tctgtgtaga gcagctagtgt gtgttacctc 1920
cccattttca catgcacgta agtatatgaa atagtgcaga ctgtttcaaa tgggtgtggaa 1980
tcctaaatgt ttaaaataag gtccttcttg cccactccct cgcttacttt ttataaaact 2040
cctcaagcaa aatttctgtt cattttaccc ttaggagaag ctttagttct tcctcaagtc 2100
agggagtagt gagtttgtat tttgagtagt catttctcac taagctgggt gctttctaga 2160
gagacagtgg aatctagtac ttttaatacat tttctctgac atggtttttt tttttctttt 2220
ttgaggggca ttttaaactt agagggtgggt gtaaaaccta cttttgagtt ctccgaactg 2280
aggttaaaa aacttgcaga attttccaaa gtcaatgggc ttagcatgat tactgctgtt 2340
tgggtggggct gagaatgaaa tatttgacat tctggaattg ctggcatgta aagcttctcc 2400
agagaggcac cccagggaat tcactcttta caatttgtaa aggaagggcc tgtaaaagga 2460
tcaaaacaca tggacctaca ttcagtgtaa tagttacaaa gttactgatt tgggttccac 2520
accctgtggt ccttagtcaa aaataatgat ctgtttcagt ttgcaagagc aggattttat 2580
tattttgctt ggggtgaggg gcgggagagt ggaatatgag taaggttgct gaatgaattc 2640
taaactcgct tatctggtct tcaggcttcc caactctctc caagccttct tatttactg 2700
cagttaaata acatcttctt gttcctatag ttgtgctgtg agttttctgt tcatatttgc 2760
gcagtgtatt ttaatacggc ccatgtcatt atagttgatt ttatcccttt aaacaattac 2820
tgtatttggt tttgacgtag aggtttcaat tttttcacct tgggggcaaa tgaaaaactt 2880
ggcatttttc atttgggaac atataatagc ttgtaaactt ttcagacagc agtaaagtgc 2940
tgaaaaaata tcaaaaacag cataaagaca agattatgta gctctaatta tacgtatata 3000
attataaaaa acaatgtgca agggttatat ttttaaggctt tttaaaatct gattttgatc 3060
ataccaaatg acataatatt ttttatggta gccttttact ttcaagactt aattttcaga 3120
ctgttacaag ttccttctta cattctttcc ctctcacacc atcctactgg agaaagcata 3180
cttttatgct aagatcttac ttttaagcttt ttatgtgaac aaaagatgta catatagtaa 3240
gtattacttc cgtagtcctc aaatttacta taacttttgt acttagtata tgttttatat 3300
ttggaaaaca gcactacgct tagttttcct gtagttcctg agtgatgtct gtgtgttccct 3360
tgcctgccct tttttgtgag cacagattag tctgttatcc atggctggca cttcacttat 3420
gatcctttct ctgctagatt tttatgcagc tctctatgaa gtttcatggc ccatagatat 3480
tcaaaagcaa gatattctat acatatgtgt atatgtatat atactcctta tgttaataact 3540

aaagtgttta tgctgagttg ctgcctttcc ccgatcatgta tccatgtgca tgctcttaga 3600
gaccttgaat gggtgagggt aaagtgattt attagtaatt ctacttgcct tgtgtatgtc 3660
tgagctgaaa acaaactga ttaagaaatt tagaggtggc tgggcgtggg ggctcacgcc 3720
tgtaatccca gcactttggg aggccgaggc aggccgatca cctgaggctg ggagttcaag 3780
accagcctga ccaacatgga gaaaccctgt ctccactaaa aatacaaaat tagccgggtg 3840
tggtgggtgca tgcctgtaat cccagctact cggaagtttg agacgagaat ctcttgaacc 3900
cgggaggcgg aggttgtggg gagccaagat cgtgccattg cactccagcc tgggcaacaa 3960
gagggaaaact ccgtttc 3977

<210> 651

<211> 3099

<212> DNA

<213> Homo sapiens

<400> 651

agcttcggcc gccggcactg gcaggagatg aaaggctgct gccgcccggg cggaaggaca 60
tcggcgcccc ccaggcccgg tccccgcccc agttcctcgg gcctttcctg ctgcccctgc 120
ctgcgagggc cgacgacacg gagaacagga tcctgcgccc aaccaggtc cccgccttct 180
ttcagaggcc caggcctgga ccccgctgag ccgcagatgt gcgagcagga gcgccagagc 240
cccgatgccc gccagcagg aagcgggcgg gagatggttc cttccttctg tcctgagggg 300
gaaccctgca cagagggacc attgagggcc tggcattgtc tgcctaactc acccagtgcc 360
tcctccctg ggtgggccat gcggggcctt gacaggattg ccctgggtgcc gtcttggcag 420
tgggtctggg tgggatcctg ggggcagggc ttccctgagt gcagacagct aggccctcac 480
ctgccccggc ctcccacca ggctcagatt tccagggcct aaggctccat tgtcccagca 540
ctggtggagg cggcctgtca attcagcctt gtgtttgggt gttgggaaat tcccagccat 600
ggggggctgc aggcaggaag gggctgcccc ggtgtcctgc accccaactg aagggactcc 660
atgaggttgg ttcttgggca tcccctgctg cctggagctg tcccaggctg gacctcaacc 720
attcatcaac cctcaggagc agttgggtga ggagcaccag aaattcaatg ctccctggcg 780

ctgcatcccc agagccctcc cagcctaaga agccccatct ttctgtctcc acgcatggag 840
aactgcagct gtgaggccca ggacccttag caggacatgc agagctgggc agggaccag 900
gctcatgctc ccagcgtggg gtgagttgtc tccagcctgt ggagactgcc atgaagttga 960
tctgcctccc agagggcctg gccacttga aataattgct ccggctactg atgtggtggg 1020
aactttggta tttttaaccc atttgggggg tgggggagca gctaggaaga gagaggcaag 1080
ctttcagagt cagagaggcc tgagagagga gagtagaggg aaactcagtg aggaggagcc 1140
aggcaggctg cctcggtagt tccccaggcc tagacacccc ccctgtacca cccctgtcc 1200
cagcaggtag gtgcagacct agatgccagg tgcagaaggg ggaaagggcc ctctccaggg 1260
ttacagcagg gatcaccgag gctgcagggg ctgccaaggc ctggaagaag tcccatgttc 1320
caggggagccc catggcttct gatgtcagga aaacttagtc ctctcagttc cccagaatca 1380
tttcacccca cccacccaa actgagtggc aaaccagttg agtagagaat acaagccctg 1440
actccagctg cctggtcagt ggcatagcca gccaagtcct agcaacccta ggagtcaggg 1500
agtcagggag gaggcaagga caagactaca gtattgtttg gctgagttct gggctctggcc 1560
ccactcccca aaactgacct caatctctgt gtctgtctgcc ctaaaaagag accctggggc 1620
tgggtgtggt ggctcacgcc tgtaatccta gcactttggg aggccaaggt gggcggatca 1680
cttgagatca ggagttcaag accagcctgg ccaacatggt gaaacccgt ctctactaaa 1740
atacaaaaat tagctgggca tgatgacggg tgcctgtaat cccagctact caggaggctg 1800
aaacaggaga atcacttgaa cccaggagac ggtgggtgca gtgagccaag attgtgccac 1860
tgcactctag cctaggtggc tgagcgagac tccatctcaa aaaaataaat aaaaggagac 1920
cctgactgga tgtagtggct catgccttaa tcccagcact tttggaggcc aaggcaggag 1980
gatcacttga ggccaaaagt ttgagaccag cctgggcaac atagcaagac cccgtctctt 2040
aaaaacaaaa gatcctagcg gtcctcatct ctaccatgga ctaccagagg gaaggcagca 2100
cctctcatca cccaggggga tggcctccag tcagctgggg tatgtatgca gctgtgtggc 2160
agcaaataatg tccatgcctg caagccactc agccctcagt cacacggtga tgggcactaa 2220
tatccaagag gagcagaagt caaggccatg ggtccttttc tccccttgcc agagatgcag 2280
ccccacagtc cctggtgatc ttggctggga gaaaaatcag agtttgacat ctcatccac 2340
tgccttctgc tttctgacct tactgaggtc agggctcatca aggcctgggg gactgggaca 2400
gggttaaggg gtgtcctttc tccatccgtc ttccaacccc gtggagactc agcatgccta 2460
ggaaggtgga agggcttcct gcgggcacac catctccgc ctcctgtgc ctgtcctctg 2520

ctgggtcctg ggttctccag tgattatagc ccttgctgct tccccacag tggggaacac 2580
 agagccctgc ccagaggctt gaacctggca ccacaggggt ctggaattac acagaagacg 2640
 ggtgacagcc aaggtggatc atgaacggtg agaagtccag caggtgacaa ggggaagggt 2700
 ctaaagggtg gagggcacag cgcaagcaaa gtcttggcaa caaaagagct aatgcatccc 2760
 agaaatgggg caggtggagt actggaagct acaccaagct tcagagtggc cctgtggcct 2820
 cgggtgtgta gctcaggcct ataattccaa cactttggga ggctgaggca ggaggataac 2880
 ttgaaccag gagttcaaga tcagcctggg caacatagtg agacctccat tttacaaaa 2940
 aatacaaaaa ttaactgtgt gttgtggtgt gtgcctggag tcccagctcc tcgggaggct 3000
 gaggtggggg gatcacttga gttctggagg tcaaggctgc tgtgggccat gatcttgcca 3060
 ctgcactcca gcctgggtgg caaagcaaga tcctgtctc 3099

<210> 652

<211> 3777

<212> DNA

<213> Homo sapiens

<400> 652

ctcttcacag ctgagacaac agagaaactg gactgaaggc aaaggggcca gggattgcaa 60
 tttgaggggg gattgcaaag gatttctggg gtgtcaggca gccagggca gctcagctgt 120
 gtgggtcccc attacccttc cccaccacc tccaggaaaa cagaaaagca ctgggaagtc 180
 ttccagaagg tgacagaggt ctctaccta gtgcctgcgc tgctggggct caaagggaac 240
 ctggaaatga ccctggcatc aaggctttcc actgcagcca acattggaca catggacaca 300
 cccaaggagc tctggcggat gatcactggg aacatggccc tcatccaggt gcaggccacg 360
 gtggtgggct tcctgacgtc catcgcagcc gtcgtctttg gctggatccc tgatggccac 420
 ttcagtattc cgcacgcctt cctgctctgt gctagcagcg tggccacagc cttcattgcc 480
 tccctggtac tgggtatgat catgattgga gtcatcattg gctctcgcaa gattgggac 540
 aaccagaca acgtggccac acccattgct gccagcctgg gcgacctcat caccttggcg 600
 ctgctctcag gcatcagctg gggactctac ctggaactga atcactggcg atacatctac 660

ccactggtgt gtgctttctt tgtggccctg ctgcctgtct gggtggtgct ggccccgacga 720
agtcagcca caagggaggt gttgtactcg ggctgggagc ctgttatcat tgccatggcc 780
atcagcagtg tgggaggcct catcttggac aagactgtct cagaccccaa ctttgctggg 840
atggctgtct tcacgcctgt gattaatggt gttgggggca atctggtggc agtgcaggcc 900
agccgcatct ccaccttcct gcacatgaat ggaatgcccg gagagaactc tgagcaagct 960
cctcgccgct gtcccagtcc ttgtaccacc ttcttcagcc ctgatgtgaa ttctcgctca 1020
gcccgggtcc tcttctcct cgtgggtcca ggacacctgg tgttctcta caccatcagc 1080
tgtatgcagg gcgggcacac caccctcaca ctcatcttca tcacttcta tatgacagct 1140
gcactgctcc aggtgctgat tctcctgtac atcgcagact ggatggtgca ctggatgtgg 1200
ggccggggcc tggaccgga caacttctcc atcccatact tgactgctct gggggacctg 1260
cttggcactg ggctcctagc actcagcttc catgttctct ggctcatagg ggaccgagac 1320
acggatgtcg gggactagct tggtcactca acattttccc catcctctg cactttctat 1380
ttgaaatfff tcttttgttc cctgtccct cctccacccc acactccac ctctttctag 1440
gacttcactt tgatacaaaa ttctcattat tttcaatggg aatttttata cattgagcca 1500
agtttgata gcaagaatff gggaaacaca gatggcctga gataagcagt acaagtaggt 1560
ttttgagaca atcaccaagt gcagtttcat ggtgggtgcc tccaggtgat gtggactgga 1620
gcaggggagt tttgtctgga atctggggac atggggtttg gcttttagcaa cctgtcttgg 1680
ccctaagtag aaaccctttg taagtgggct ctggattttt ggttttgttt tcttttcac 1740
tgttttgttt tatttttggg tttggttgaa cagagggaca gaagaataag taacactccc 1800
aaacacagac atacttttgt agaagtggac caacttcaaa gctctggaca ggagacacct 1860
gctccaggcc cctgtgatcc cagttctgtt ctcttgccct ctggacctaa gcgttccac 1920
tcgcagaaag agtaaggtgg actgactttt caatttgtgc acatgcctct tgttcaatgg 1980
cctggtcaac atcaacaacc cctccctctg atcatttcca gttgattgtc atatccagga 2040
aaaaatggaa cagtgcactc ttctccctgt tgacctatgt ccacctattg gttccccaaa 2100
atccacattc tccctgggcc cagatgactt tgtctccctg ggcccggatt ctttgtctct 2160
cttcaacctt catctcaaat tgtctctaag cactacctc cccagagctt gccaggttgg 2220
gttttgagat tagggtcagg tcatgggtat gtggagaatg gtttggaggt tgaggacaac 2280
cacaggtgtc tcattgctgc catttctcct gaggacataa tcacttggtc accttgacc 2340
ctgtcacttc ctaaaattac tcgttctgtc atgcataga ggtcagtttt cctctttctt 2400

ggcttctacc cacaacatt caccaatcat ttattcggtc atttagcaaa tatgcagcct 2460
ccgcaagatg agctctcctg cagacaagca tgggtctgaaa cattctttga gcaatattta 2520
ttgagtgcct actatgtgtt aggtactgtg ccaggcactg ataagccagt ggtaagggaa 2580
acacagctct aacctcacct cattctccag gttacaaagg ccatgtgccc ctttgaatct 2640
ggcagagaaa gtttcctcgt tgtaagtatt tgcactctact tcaagccaga ttcttctgcc 2700
tctttctcct ttccagaccc ctactctgtg cagtgtctgac cacagctaga gccaccgccc 2760
cattgctcaa ccagtattta ttccctaaa cgacccttcc tcacattccc ttccctccac 2820
ctctccttac caagcaccca aaagaggatt tagaactagc aggggtggaca tcatctgggt 2880
gtttctactt ttctctgcct agcacaaaat tgggagaaaa ctggagcctc catccgcagt 2940
cacacgtgta cagatctggg gatttggatg taggcttttt ctaacttctc tctcagaagc 3000
ttctacagaa acccttccat ctgtagcctc aaggggccac ctccaaggga aggcttaggc 3060
aatgatcctg tttctaccaa cactgcacct tatcccagga acctgcccta gacctccaga 3120
gaccatattt tctctccctc catttctacc cagacctcca ggctccttc tggaatcata 3180
gaaccgtaga attggaagga attttagagg ttttctagtt ggagtgtgt ccaacagaat 3240
tcattaacac cagcctgggc ttgtttttcc tcctccctct ggactttttt catcttttcc 3300
tccacctcaa aaaatactta cacacagatt cttcttgtac aggcacaaa accaactcct 3360
ctgcccctaa ggctgtgtcc ctgtggtctc cagccacccc taccacagtc actcgccct 3420
tcctcatctc tggaatttgg ccaggcagtc ccagaagact ctggagtgc ctcctttgcc 3480
taaaaagcag acagataggc atgccccagg ccctgagtga gcagaggagg actgtagggt 3540
gagagggaaa gaaaatgaag gtgactttca tggaagtctc atttctttc cccgattgta 3600
ccaactgcat gtacttttgg cctggctgca aggagcaata ttggtttact ctcgatcct 3660
taaaaagtta cagaactgtg tcttaagaga attatttata gttactataa ctgaattgac 3720
aatgtcaac ttaactgata aattatattt ggtaaaataa agaggacgtt tatttag 3777

<210> 653

<211> 3827

<212> DNA

<213> Homo sapiens

<400> 653

tacctggaca ggtttttttc catattggca cttattaatt gaaaagggtca ggggtaccact	60
tccaatgagt gtagggaagc aagcagtagt ggtgtttaga atatcaaggtagctgctgg	120
atgcggtggc tcacgcctgt aatcccagca ctctgggagg ctgaggtgga cggatcacga	180
ggtcaggaga tcgagacaat cctggctaac acagtgaac cctgtctcta ctataaaata	240
caaaaaatca gctgggtgtg acggcatgcg cctgtgggtcc cacctactag ggaggctgag	300
gcatgagaat cacttggact tgggaggcag aggttgcagt gagctgagat cacgtcactg	360
cactctagcc tgggagacag agcgagactc cgtctcaaaa aaaaaaaaaa aaaaaaagggt	420
tagcattcca ctcttccttt ggggtttcag ggtgacttat tgggaaaatg gagagatact	480
ggcattaatg gaatcgtttc ctgatttgag cgttaagtca caaacccaac aggaactcca	540
gtttcttgct agagcattag cttttgctaa agccggcccc agattatgggt cccacggatt	600
ttcccataaa gaaagggaaa ggatttgcgg acagaaaata ggaaagagag ggagaaagat	660
aagatTTTTG cgattgcagt gaagtcttca tccacatcta gggaaagctg ttcattgtcta	720
ggacgtgatc tgcttctggg gaaaaacttc cctggttagc tttaccttaa agtctccaac	780
aggtgtgtag ttccaggagt ctggagagggt ccttttgagt tgtgagatgt ggaccaagg	840
ttcgaagccc tgaagtttta ccacagtgtg ggtaatagaa gaacttggtta ttgtctcttt	900
ctgtgagggt taagggcact ttttctctga taccatctcc agaagaccta gtctcaggtt	960
acagattgtg aaggctttga tggtcctctg tgggtcacag aaagtttatt ttattttgtc	1020
aaaatacagt gtgacataat gcattacagc tttgtagtat ttagtggcat cagcatttag	1080
gagagtagga actacgtgaa gttctgttag gagcacaggc tttctagtaa ctatttcata	1140
ggggtcaatc tgtgtctgtc gtaggaatgg atctgatctg ctgaccaaag gcaatggttg	1200
gctttcttct tcagagatca gaaaaaatg aaattcaaag ccaatggtgg tatctttggc	1260
caagataatc caatcgattc agttaatttt gccaatttta gttttaaaat atttgtcctt	1320
ttgacctttc cagaagactg aggggtgaaag ggacaatgggt agtaccactg tgtttctaac	1380
actttattta gctgcttcat agtttgtcca ataaaatgag ttcctctgtc actggagatt	1440
tttccagaga tgccccataa aggaaacaca tgttcttata actccttagc tactgccata	1500
gcatcagctc tcctacacag gaaagcttct atccaaccag aaaacatgcc aactattaca	1560
agaacatact ggtacttaat tgagggtggc agttgaatga agtccatctg taagcgttca	1620

aatggtccat caggtgttgg tggaaataca ccacttggag tttttattat cttccctgga 1680
ttatgggttt gacaaaccag atattgggta taacccatit cagcatttta cagtgggtcac 1740
actatcagta ttttttataa tctggatcat cttgctcatt tgtgaggtgc agaggttgtt 1800
ttttgttttt ttgttttgag acgggatctc gctctgtcac ccaggctgga gtgcagtggg 1860
gcagtcattg ctcactgcaa cctccacctc cagagatcga gcagtcctcc cacctcagtc 1920
tcctgagtag ctgggactac cagtgtgcgc caccatcccc agctgatttt ttgtaatttt 1980
tatagagagg gttttatcct cttgcccagg ctggcttga actcctgggc tcaagctgtc 2040
agtccagctc agcttcccaa agtgctgggg ttataggga gagccaccgt gcctggccaa 2100
gtgcaaagct ttttaacaata gaagtttcaa gggctcagga aggaccaggg ggccatctag 2160
gctctccatg agttcacgct taacattatg tttacgtctg tcagataaca attttggttt 2220
tccacatcag gtgcattgca ctgttagatg ggtcatcata aaggtcatca atctagtggc 2280
attcattcaa tttgcacatc ctaactgttt cagcactatc tgatttagca tgaaaatctg 2340
ccagggcagt cccttgatat tcaggttcag ctttccatgt atgggcttca atcttataag 2400
aatgtgttat ttatttttca cttttactca agatagcttg gaacttatac caatttgtga 2460
tggcaacagg atagtagcaa gttcatccac ttgagtctgt ttttaatagg ggctccacta 2520
gaagtgagaa accctctttg tttccataac atgccaaaat tgtggactgc aaaggcatgt 2580
atatatacat agcatgtctg ctatgtatat agcattttct gatttccctt tagctatatg 2640
ataagctcaa gtgggagcaa aagtctctgca gtttgagctg actgaaactg ggaagagtcc 2700
gctttttatt aactcatttt gggttttaat gacatatttt gccaaagaat aatttcaaat 2760
gggggcccgc accacgcca gcttattttt tgtatttagt agagatgggg tttcacctgt 2820
ttcgtcaggg ctggctctga tctcctgacc tcaggtgatc caccgcctc ggctcccaa 2880
agtgtgggt caactatgtt cttgagtaag aactcctgat gcctgattgt tatgtttatg 2940
aacaacaag gtgaagggtt cagtataagt tggaaatcct agagcaacca tatctgttac 3000
tttccatcct gggttatatt cttaattaga ctgcgaagtt ctgaatgaag tcctttttaa 3060
atagagcagt taatgccatt tctgtctctg caggtttcac aagtagtgtt tctaaatgag 3120
ctctataatc tgaaaccggt tcatttttct tttgccaca agattatgtg attgaccaat 3180
caattttttg tggaaaagcc ctagggattg aatttaaaag atcttcagca attcttcag 3240
ttcctttttg cctcctcttg gggttttgga gtggtcttta gtatcctcag gctgttgcca 3300
ttctgctcct gctgtcaatt ttcaagcttc accagtatca tgtgaataaa ttggtaaaga 3360

ttagagagtc ctgaatcata agctcttatg aggattctca attttccagt acgtttttga 3420
gtattttctc ttggattagt taagtcttta tgatggctct aagctcagct ttagaccatg 3480
gagtaaaagt ggttacagca ggcaggctgg ttgactagag agtctcactt tgtaaggcat 3540
ttgtccaact tccccTTTT cATTAgcctc aaggagaaaa ggtaactgag caaaagggtt 3600
actgtactca aagcatcgag gcaaagaaga gacagagaag gagcaatcca ggttcatgtg 3660
ctgcatgagc ctttcatttg cgTTTTgtaa agaattcttt aggcaatttt agatttgtat 3720
aatccttttag atgcctctgc ataccgattt aaaatgcatc ccgttgTTTT tgtggcgttt 3780
tcgatccttt cttttctaata gtgtcccata aataaacagt tttattt 3827

<210> 654

<211> 1790

<212> DNA

<213> Homo sapiens

<400> 654

acatgaaaaa tcttactctg gagaggaacc ctatgagtgt aagcaatgtg gtaaagcctt 60
tgtttctttc acttcctttc catatcatga aaggactcac actggagaga aaccctatga 120
gtgtaagcaa tgtggaaaag ccttcagatc tacctcacac ctttgaaaac atggtaggac 180
tcacactgga gagaaaccct atgaatgtaa gcaatgtggg aaagccttca gatctgtcaa 240
aaattgttga attcatgaaa ggacacacac tggagagaaa ccctgtgaat gtaagaaatg 300
tgggaaagcg ttccataatt tctcttcttt gcaaatacat gaaaggatgc acagaggaga 360
gaagctctgt gaatgtaagc attgtgggaa agcattcata cctgccaaga tcctttgaat 420
acatgcaaga acacacaatg gagagaaacc ctatgaatgt aaagaatgca gaaaagcatt 480
cagcttgcct acttcctttc atagacatga aaagacattg gaaggaaacc ctatgaaggc 540
aagcaatgtg gcaaagcttt cacttcttcc agttcttttc aatatcatga aagaattcac 600
actggggaga aaccctatca gtgtaagcaa tgtgcgaaag cctttatttc ttccattctt 660
tttcaatatc atgaaaggac tcacatggga gagaaaccct atgagtgtat gccatgtggg 720
aaagccttca tttttctagt tgctttcgat gtcatgaaag gactcacact ggagagaagc 780

cctatgaatg taagcaatgc aggaaagcct tcagatcagc ctcacacctt caaatgtatg 840
 gaaggactca cactggagag aaaccctatg aatgtaagca gtatgggaaa gcattcagac 900
 ctgacaagat tctttgaata cagataatga atgtaaaca ttaactgttt gtaataactg 960
 tataactaaca aatgttatct ttaaataatt aagaagctat aatagtaagg ccgggtgcgg 1020
 tggcttatgc ccgtaatccc accagtttgg gaggccaagg cagatcacga ggccaggctg 1080
 gtcttgaact ccagacctca tgattcgctt gcctcggcct cccaaaatgc tgggattgcg 1140
 gatatgagcc atcatgccc gccgcaacc taatttttca ttcagtcata ataccaacag 1200
 ttatctcatg tacctctgag tgccttcttc ccaaagcca gcagtaccat acctgctgtc 1260
 agcaagtgtg taatatacca tagtgataaa tatgaccaa agccataaat gactgtgaga 1320
 tgtatgagaa tgacacgtca cattagtaag aagagaaaaa ttttggccat gtttatgatt 1380
 tgaaatatgt tttcctctat cacatttaga aatatagtta caaatgccc ttagttttat 1440
 cctgattcac catggtcact gaggagcatc gtctcatatg cctgggtatg gacatgtgtc 1500
 tcttcaacag taaaagactt ggcattggct gggcatgggt gctcgcgcct gtagtcccag 1560
 cactttggga ggccgaggtc aggagttaga gaccattctg accaatatga tcaaaccctg 1620
 tctctactag aaatacaaaa attagcgggg tgtggtggca tgctcctgta gtcctagcta 1680
 ttcaggaggc tgacgcagga gacttgcttg aatataggag gcagacgtta cagtgagccg 1740
 aggtcacacc attcactcca gcctgggcaa caagagcgaa actccgtttc 1790

<210> 655

<211> 1920

<212> DNA

<213> Homo sapiens

<400> 655

ttttgcagat gcttattgaa cactttcttg gactcaagag tgtggtgctc tttgagtgtg 60
 ttgtgttatt aaccctcatg ccattcccat gacacctgtg cataggagga atctgggacc 120
 cagagaggcg ggacgggata ggcagggtct gatgagcagc tgtgggtggt cctggtggga 180
 gctaaggagc aggcagcctg aggccagggc ccattcccaa tcacatgttg tactgagcca 240

gccaccacct tagatttttag agtctcctgg agcacgtgaa aacaactgaa aaagggtaac 300
cacacatcat ttcacttgtg atgtagcttg cctgtctcca caccatgccc ctgaagaata 360
gtatatcacc tacagcccct tccccagtca ggaatggaag tgcatgacac atgtgctcct 420
ctaccacctc catgctcatg gcagacatca ttaatcaatt atagcactct ttctgtagag 480
ccagagacag catcacactc tttcccctcc tgcattccag gccaccacta ccaactgaaa 540
tcgtgttagt accataatga atgctatgta ccattctcta ccctaagcga ttgcaaactg 600
taaatgaatt gttgctgatt tctgagcccc tcctagattt ggggtaaatt catttcttgt 660
tttcagaaca caggggatag ggacaccctg tgcagttctt tctccaggac aaggagactc 720
cccactgggg gatggggcgg ggtttctgcc ttaatttggg cgctcatagt ttcaaggagg 780
agctctttct ggctttggcc agctagaagg aaagggtgcc tgtttgttaa ctttaaaatc 840
actacgggtg tagtgtatgg agtgggctgt gccatgctgg agttcagagc aaaggttctt 900
caggttttct tgcgaaggac cttacttgt caatggcaga gccacacccc cgggacatac 960
ttggcagagg aatgcctctt caggcacata aacatttttg catattccat gttagtcaat 1020
aaaccgtttc ataagggttc tttgaggaca tctgacttca aagggaataa attcataatt 1080
cagacaggct ctcggggctt caccatacaa cgcccttctt gtatttggtt agttttatgg 1140
gcctggagtg ttgaccatgt attaattttc tctataaaaa tcagaaccgc tctgggcaga 1200
cccagaattt atagtatctg tggcagctctg gcagagagta gggaccctca gccatgagtc 1260
ctgcctcac ttgtaacgag taccacctaa gtgatcccag gtgtctgggg atgctttaac 1320
gcaccagat cccacctgc tcttggcgcc tcctaattac acaccatgag cggcggcggc 1380
agaggagaac tgctgggagg accgaggagg atccgcctct cgtgtagaag aacagactgt 1440
attaacagt gattatggcc atgccaggca caggaagacc tgacctcatg gaatectaac 1500
aacacaggcg gtgggcgaga gagagctttg acatttactc actgaatgcg ccctgatgct 1560
taatgagtgg cacgggtcag cagcaccgtt gtggagctgg ggctctcagc tgggtgtgggg 1620
gggggggtca tgtctctggc taaggagcgt acctagcctg cctaagccat gagcctgttg 1680
gggtggcatg aacagtgact gctcttcacc ccaaagtcag tgtttctcct taaggaggca 1740
ctcagacatt taggaaacgg ggggaacgta gccacggtgc tgttctggga tttgggggct 1800
ccccattct ggggtgcatct cttgcaaata tgttatgtgc tccctttcac ggatgagcaa 1860
actgaagctt tgagagtctc aaagaatgtt ctttactaga ctgaaataaa aactagaaac 1920

<210> 656

<211> 1749

<212> DNA

<213> Homo sapiens

<400> 656

```
gagtctgggt tggactggcg gccgtggagt ttgtgacata cgaggtgaca ccctcgagt    60
cacttccctt caactccagc tggagcgctt gcttggcttt gggttcgttc tgcagccttc    120
gccccatccc cctgtccctg gtcagagtct cagtccaaca cccaccactc catgagcccc    180
accccaggcc caaacaagcc acagtggacc cctgtggcct atgaggtctc gggactagag    240
gccaacaggc taagccatgt ccctgccagg ccctccagga cagggcctgc tatacagggg    300
agctctgggc ccagcccact ccaaatttcc ttcaggcagt ggacaagaga gaagacagaa    360
tcatggtgca acagagctgc atggccctca gaaccctaa gaacacagct gggctcaggg    420
ctctgcaggt ggaatcacac tcaacctacg gcctctttcc cacattagca gccacctcag    480
cccatcccg cgggccagc ccaggccagt ccagctcagt ccagcccagc ccagctcagc    540
ccaggccagt ccagctcagt ccagcccagt ccagccaggc acagactgtc ctctggggga    600
catggcatga gggccgcgtc ctacacagtgc attctgtgtt ccagcatccc cgaccagccc    660
caaggtcttc ccgtgagcc tctgcagcac ccagccagat gggaacgtgg tcatcgcttg    720
cctggtccag ggcttcttcc cccaggagcc actcagtgtg acctggagcg aaagcggaca    780
gggcgtgacc gccaggaact tcccaccag ccaggatgcc tccggggacc tgtacaccac    840
gagcagccag ctgacctgc cggccacaca gtgcctagcc ggcaagtccg tgacatgcca    900
cgtgaagcac tacacgaatc ccagccagga tgtgactgtg ccctgcccag ttccctcaac    960
tccacctacc ccatctccct caactccacc taccctatct cctcatgct gccacccccg   1020
actgtcactg caccgaccgg ccctcgagga cctgctctta ggttcagaag cgaacctcac   1080
gtgcacactg accggcctga gagatgcctc aggtgtcacc ttcacctgga cgccctcaag   1140
tgggaagagc gctgttcaag gaccacctga ccgtgacctc tgtggctgct acagcgtgtc   1200
cagtgtcctg ccgggctgtg ccgagccatg gaaccatggg aagaccttca cttgcactgc   1260
tgcctacccc gagtccaaga ccccgctaac cgccaccctc taaaatccg gaaacacatt   1320
```

ccggcccgag gtccacctgc tgccgccgcc gtcggaggag ctggccctga acgagctggt 1380
gacgctgacg tgcctggcac gtggcttcag cccaaggat gtgctggttc gctggctgca 1440
ggggtcacag gagctgcccc gcgagaagta cctgacttgg gcatcccggc aggagcccag 1500
ccagggcacc accaccttcg ctgtgaccag catactgcgc gtggcagccg aggactggaa 1560
gaagggggac accttctcct gcatggtggg ccacgaggcc ctgccgctgg ctttcacaca 1620
gaagaccatc gaccgcttgg cgggtaaacc caccatgtc aatgtgtctg ttgtcatggc 1680
ggaggtggac ggcacctgct actgagccgc ccgcctgtcc ccacctga ataaactcca 1740
tgctcccc 1749

<210> 657

<211> 2041

<212> DNA

<213> Homo sapiens

<400> 657

acaggagaat gagaggcctc cgctggcggtt acactcggct gcccagccag gtggaggaca 60
ccctgtctgg ggaggagggt aacgaagagg aagaggagga ggaggcagct ccagaccag 120
ctgctgctcc tgaggatccc acggtgcccc agctgacaga agccagccag gttttgagtg 180
cctcagagat tcggcagctc agctttcact tcccaccaag agtcaccggc catccctgga 240
gtctggtctt ctgcacgtca agggacgggtt tcagcctgca gagcctgtac cggcggatgg 300
agggctgcag cgggccagtg ctgctggtgc tcagggacca ggacgggcag atatttggag 360
ccttctcctc ctcggctatc cgactcagca aaggcttcta tggactggc gagacattcc 420
tcttctcctt ctccccacag ctgaaggtct ttaagtggac tggaagcaac tctttctttg 480
tgaagggaga cttggattca ctgatgatgg gcagtggcag tggccggttt gggctgtggt 540
tggatggaga cttgttccgc gggggaagct ccccttggc gacctcaac aacgaggtgc 600
tggcccgga ggagcagttc tgcattcagg agctggaggc ttggcttctc agctgacagc 660
cctgcggcaa cagaattcta tgattgaagc ctctaaatga attgtgcagg agagggagtt 720
tgtaaacaac tgactacaga cattcacatt gggctcatctt taaaagctg gactctgctt 780

ttggatgctt ctcggaggcg agttggattt tggactgaag tactgtcgtt ccattccttt 840
ttttgagggtg ttatgagtgg ggctataaca tcgccatcct attaagaaga gagagaaaaa 900
caggcaatag agaaaagcca gtttccatca tcttatttct gagtgaagt ctcaagtgcg 960
cacatcctca tcttgcatat agattgcttc tagctgtcct caatccaggg aaactccaaa 1020
ttacatatgc cctgtgcttg gggcaaatta gaaacactac agtcttacgc aggaagagcc 1080
ttcatgaaaa cagccactgg cctctgcaga gatgactggg agcagcatac cactgcccac 1140
ctctatggcc tccttcacac accttcacgg agcacaaaact ctgtcctgtt tcccaggag 1200
aaagacggga tgcactgaac ccctagcttc tctctgcct ggtcccctct gcaataaaag 1260
gcccaggctc acaagatggc aaagaagggg aggaagaaca gtatgtacct gcagaattta 1320
aatTTTTctc tgcacaaag ctctaactgt ggtcccatca gcataggctc cagccaaaga 1380
agctcctcca cccaaaataa gggagagatc caaagggagg cgatacaatg acgtgaaacc 1440
atagaggtaa gaagcaaggc ctctaatac ttgactctat gctaaactgt tctgaacttg 1500
tggttagatc ttctttggtt acaagatgat gcacgatctt ggagagcctc tgttgtacca 1560
ggaatacaat gctggtggga ggattcgtgc tcctcatctg cttatttgct ctcagatcca 1620
ttcttcactc ttctctccc tactctgtct cacaggagct actccggtaa attacatttc 1680
tcagctcca tgcctgttgg ttccagtta gatitgggtca gtgggaggct ctggtgggag 1740
actggagggtg agaagagggc agagaagtca ggTTTTtct ctccctacct cctctggcac 1800
gagcggcagt ggcagtgact attctgtggt tctagctttt gcagggtggc ccagctcctg 1860
gactcccacc tgctcccttg gtctctccta tcctagaggt ggtagcagct tcctgctgtt 1920
gaatcactgt cctctatgct catttagctc tgccaaaact tttgtatctc acccccatgt 1980
taaatttttt ctgttgaact aactggatc tgacttgata gaactattaa aaatagtttt 2040
t 2041

<210> 658

<211> 1554

<212> DNA

<213> Homo sapiens

<400> 658

```

atttccttaa attcaggttc cagctcacct gggaaatact ttctgagagt cctggacctc      60
ctgtgcaaga acatgaagca tctgtggttc ttctttctcc tgggtggcagc tcccagatgg    120
gtcctgtccc agatgcagct gcaggagtcg ggcccaggag tggatgaagcc ttcggagacc    180
ctgtctctca agtgctccgt ctctgggtggc tccctcagtgc gcctccactg ggtctgggtc    240
cggcagcccc cggggaaggg actggagtgg attggacata cgtatttcgg tcggcctaac    300
acctatagtc cctccctcag gagtcgagtc accatttcag ttgacacggc cgagaaccag    360
atctccctgg agctgacgtc tgtgaccgct gcggacacgg ccgtgtatct ctgtgtgggc    420
ctttttgaag gtctcgggtg gcgaggcttc tggggccagg gagtcctggt caccgtctcc    480
ccagcatccc cgaccagccc caaggtcttc ccgtgagcc tcgacagcac cccccaagat    540
gggaacgtgg tcgtcgcatg cctgggtccag ggctttctcc cccaggagcc actcagtgtg    600
acctggagcg aaagcggaca gaacgtgacc gccagaaact tcccacctag ccaggatgcc    660
tccggggacc tgtacaccac gagcagccag ctgaccctgc cggccacaca gtgcccagac    720
ggcaagtccg tgacatgcca cgtgaagcac tacacgaatc ccagccagga tgtgactgtg    780
ccctgcccag ttccccacc tccccatgc tgccacccc gactgtcgct gcaccgaccg    840
gccctcgagg acctgctctt aggttcagaa gcgaacctca cgtgcacact gaccggcctg    900
agagatgcct ctggtgccac cttcacctgg acgccctcaa gtgggaagag cgctgttcaa    960
ggaccacctg agcgtgacct ctgtggctgc tacagcgtgt ccagtgtcct gcctggctgt   1020
gccagccat ggaaccatgg ggagaccttc acctgcactg ctgcccacc cgagttgaag   1080
acccactaa ccgccaacat cacaaaatcc ggaaacacat tccggcccga ggtccacctg   1140
ctgccgccgc cgtcggagga gctggccctg aacgagctgg tgacgctgac gtgcctggca   1200
cgcggttca gcccgaagga tgtgtggtt cgctggctgc aggggtcaca ggagctgccc   1260
cgcgagaagt acctgacttg ggcattcccgg caggagccca gccagggcac caccaccttc   1320
gctgtgacca gcatactgcg cgtggcagcc gaggactgga agaaggggga caccttctcc   1380
tgcatggtgg gccacgaggc cctgccgctg gccttcacac agaagaccat cgaccgcttg   1440
gcgggtaaac ccacccatgt caatgtgtct gttgtcatgg cggaggtgga cggcacctgc   1500
tactgagccg ccgcctgtc cccaccctg aataaactcc atgctcccc aagc           1554

```

<210> 659

<211> 2674

<212> DNA

<213> Homo sapiens

<400> 659

```
ggtgcatttc caggcgctgc tctccgtcgc agagaaccct gagctcggcg cgccgagagt    60
cccagcaggg caagggggcg cggcgtcctg gtcctcgagc ttgggagaca gatgcgcatg    120
ggcgtggggg catgcggacc taagctcggg tgaagctctc gggaagggca agactgcggc    180
gacgagatgc gagcagagga gccctgcgcc cccggggccc ccagcggcct gggagcccag    240
cgcacgccgg gccccgagct gcgcctgtcc agccagctgc tgcccagact ctgtaccttc    300
gtggtgcgcg tgctgttcta cctggggcct gtctacctag ctggctacct ggggctcagc    360
ataacctggt tgctgctcgg cgccctgctg tggatgtggt ggcgaggaa ccgccgcggg    420
aagcttgggc gcctggccgc cgccttcgga ttccttgaca atgaacgca gttcatcagc    480
cgcgagctgc ggggccagca cctgccagcc tggatccact tcccggacgt ggagcgggtc    540
gagtgggcca acaagatcat ctctcagacc tggccctacc taagcatgat catggaaagc    600
aagttccggg agaaacttga gcccaagatc cgagagaaga gcatccacct gaggaccttt    660
acctttacca agctctactt tggacagaag tgtcccaggg tcaacggtgt caaggcacac    720
actaatacgt gcaaccgaag acgtgtgact gtggacctgc atctgctaca tcggggactg    780
tgagatcagt gtggagctgc agaagattca ggctggtgtg aacgggatcc agttgcaggg    840
caccctgcgg gtcctcctgg agccccctct agtggacaag ccctttgtgg gagccgtgac    900
tgtgttcttc cttcagaagc cgcacctaca gatcaactgg actggcctga ccaacctgct    960
ggatgcgccg ggaatcaatg atgtgtcaga cagcttactg gaggacctca ttgccacca   1020
cctggtgctg cccaaccgtg tgactgtgcc tgtgaagaag gggctggatc tgaccaacct   1080
gcgcttcctt ctgccctgtg gggatgatcag agtgcacttg ctggaggcag agcagctggc   1140
ccagaaggac aactttctgg ggctccgagg caagtcagat ccctacgcca aggtgagcat   1200
cggcctacag catttcgga gtaggacat ctacaggaac ctgaaccca cctggaacga   1260
agtgtttgag ttcattggtgt acgaagtccc tggacaggac ctggaggtag acctgtatga   1320
tgaggatacc gacagggatg acttctctggg cagcctgcag atctgccttg gagatgtcat   1380
```

gaccaacaga gtggtggatg agtggtttgt cctgaatgac acaaccagcg ggcggctgca 1440
cctgcggtg gagtggcttt cattgcttac tgaccaagaa gttctgactg aggaccatgg 1500
tggcctttcc actgccattc tcgtggtcctt cttggagagt gcctgcaact tgccgagaaa 1560
cccttttgac tacctgaatg gtgaatatcg agccaaaaaa ctctccaggt ttgccagaaa 1620
caaggtcagc aaagaccctt cttcctatgt caaactatct gtaggcaaga agacacatac 1680
aagtaagacc tgtccccaca acaaggaccc tgtgtggagc caggtgttct ctttctttgt 1740
gcacaatgtg gccactgagc ggctccatct gaaggtgctt gatgatgacc aggagtgtgc 1800
tctgggaatg ctggaggctc ccctgtgcca gatcctcccc tatgctgacc tctctctga 1860
gcagcgcttt cagctggacc actcaggcct ggacagcctc atctccatga ggctgggtgt 1920
tcggttcctg caagggagga acgagagctg gggagcccat acacaggacc tgaagcccta 1980
aagaaaggcc ctctgctcat caagaaagtg gctaccaacc aggggtccca agcccaacct 2040
caggaagaag gccctacaga tttgccatgt cccccagacc ctgcttctga tactaaggac 2100
gtatccagga gtaccacaac caccaccagt gctaccaccg ttgccactga gccacatcc 2160
caagagtcag gccagagcc taaaggcaag gacagtgcc aaaggttctg tgagcccatc 2220
ggggagaaga agagtccagc caccatcttc ctgactgtcc caggtccca ctctccaggg 2280
cccatcaagt caccagacc catgaaatgc cctgcctccc cattcgcatg gccgcccaag 2340
aggctggctc ccagcatgtc ctgctcaac tccttggcct cttcttgctt tgacctggca 2400
gatatcagcc tcaacattga aggtggggac ctgaggcgac ggcagctggg tgagattcag 2460
ctcacagtgc gctatgtgtg tctgcggcgc tgcctcagcg tgctaatcaa tggctgcaga 2520
aacctaacac catgtaccag cagtggagct gatccctacg tccgtgtcta cttgttgcca 2580
gaaaggaagt gggcatgtcg taagaagact tcagtgaagc ggaagacctt ggaaccctg 2640
tttgatgaga catttgaatt ttttgttccc atgg 2674

<210> 660

<211> 2091

<212> DNA

<213> Homo sapiens

<400> 660

gcacccgccg tcatgctccg ggccgcgctg cccgcgctcc tgctgccgtt gctgggcctc 60
gccgctgctg ccgtcgcggg taagccctta cgtagtccct cgccgggacc gtgcgcgacc 120
gccttcgccc ccttcccaac gcacgctctt cgtccccgcg cacccgaggg cggcccgag 180
acgcaacacc cggccggaca tcccgccctt ccctgcacgc ccgtcccccg tgggtcctgg 240
ctccgggtca cctctcacc gcctgccctc ggggagggga ggtggccgag aataaggag 300
ggctctgtct tcctcggagt ccacatctc accgcagacc cactccgcg gggagggaac 360
cccaaatta ggccagttgg ccggagaact gagggacttg gtagtcgcag acgggcgccg 420
tttcaggga atttcgggct gaaatgagaa gcggggacgt tgggtggcgat tccccctgt 480
ggtgcgcggc cggagtgggg ttgctgggat ggggggtgggg gccggaggaa gtaggccctc 540
ttttgcaagc agcgtgttt gtctagttagg ttggtgttca agttgttta acaggaaaac 600
agttcagcca aataaccct ggatggaaga ggaacgggaa taggcaaagc ttggatttca 660
ctgaaatcaa ggagtttta agttctagtc tgctgttggt caagtacat ctgaaaaatc 720
acacacgtga tcattcattt acaaacgac tcgtgaggaa aatgcacaat tctattgacc 780
gtggtcttta ttttaaaaa atttccatac aagcatgtca aaaatatgtg gatggggaga 840
ctctggagaa cacagacttc caaaaacacc actgactgaa taattccagg aattaaagag 900
caaaataaac aagaactaaa tgagtacttg tgtgggctta aataaagtgc aagagattta 960
aataaatgc aagagattcc cccccccac cccttgcccc agatttcact gcgtttttat 1020
aataactgcc tgctcgaagt ctactgacag gaatatttca gtggacctca gtgttgagg 1080
cagcagcagc tcagaacttg gatacaaacc caaggttcct ttcttgaaaa cttctgtgga 1140
cctgcattta tgactggttg tgacatctgc tgcctatcaa aggggcagaa acaagatgtg 1200
cccatgttca cattgttcag actgggaaca ttaattttgt ctaagacaaa gctgggctgt 1260
ctctgaacct tcctctgca caccctcatt ttgcgagcca gtaacatctc aactctcatg 1320
taaaccaccc tctgcgaggc tgtgcatttg tactttaggc tagtcgaatt ttctgtcag 1380
atttttcttt cttgtcagac ttttaagaa aatcagtttc tagattttgg tatgtctctt 1440
cttcagtga gctgttttga ccagcaatag agggcaaatt tccctttgga aatttttgtg 1500
catttccttt gataagtcca gtgtggatca ataggcttt caagagcttt agaaaagtgc 1560
atgatgaata aattaatgtt aattaatcag ctccctccag tcaggaagct ttaaggatta 1620
atttggaat gagtgtgagc tttgacctag ctagttaacc aacttatctg cacttcagta 1680

aaacagagat aatacttact catggggcta ttgggagcat taagtgggaa ctccacgtct 1740
 agtccctatt acaggcgtgg ttcattcttg tttccttccc tttattctct tcatacaaaa 1800
 tgaagggtaa ttgttgcaac cagaaaacgt atgaatacca cttatgtat attggatgtt 1860
 tatggttact gaacacattc atatgtatgc taatgttata gggctgaaaa actaagtatg 1920
 tttttcataa tactttacaa atctcccatc caagcaagat caggggtcat atttggttta 1980
 gaactaagtc aagaaagagt ttgttgctga ataccaagat cttaatagaa aagctcttat 2040
 gatgttgcat aataaatatg ggtattgcat ataaatgtga tgttgaaacg g 2091

<210> 661

<211> 3130

<212> DNA

<213> Homo sapiens

<400> 661

agacagatgt ccctgaaggc ccgagggaca ccagccgcta tgccaggctc caaagaaccc 60
 gaggcaaacc aacgctggtc ccggtctttg aggactcccc ggcccagtga gggagaccga 120
 cagaccatgg cagccgtgac catgtcgggtg cccgggcgga aggcgcccc caggccgggc 180
 ccagtgcccg aggcggccca gccgttcctg ttcacgcccc gcgggcccag cgcgggtggc 240
 gggcctggct cgggcacctc cccgcagggtg gagtggacgg cccggcgtct cgtgtgggtg 300
 ccttcggagc ttcacgggtt cgaggcggcg gcgctgcggg acgaaggcga ggaggaggcg 360
 gaggtggagc tggcggagag cgggaggcgg ctgcgactgc cgcgggacca gatccagcgc 420
 atgaacccgc ccaagttcag caaggccgag gacatggccg agctgacctg cctcaacgag 480
 gcctcgggtc tgcacaacct ccgggagcgg tactactccg gcctcatcta cacgtactcc 540
 ggccctttct gtgtgggtcat caaccgtac aagcagcttc ccatctacac agaagccatt 600
 gtggagatgt accggggcaa gaagcgccac gaggtgccac cccacgtgta cgcagtgacc 660
 gagggggcct atcggagcat gctgcaggat cgtgaggacc agtccattct ctgcactgga 720
 gagtctggag ctgggaagac ggaaaacacc aagaaggtca tccagtacct cgcccacgtg 780
 gcgtcgtctc caaagggcag gaaggagccg ggtgtccccg cctccgtcag caccgtgtct 840

tatggtgagc tggagcggca gctgcttcag gccaacccca tcctagaggc ctttggcaat 900
gccaaagacag tgaagaatga caactcctcc cgattcggca aattcatccg catcaacttt 960
gatgttgccg ggtacatcgt gggcgccaac attgagacct acctgctgga gaagtcgcgg 1020
gccatccgct aggccaagga cgagtgcagc ttccacatct tctaccagct gctggggggc 1080
gctggagagc agtcaaagc cgacctctc ctcgagccct gctcccacta ccggttcttg 1140
accaacgggc cgtcatctc tcccggccag gagcgggaac tcttcagga gacgctggag 1200
tcgctgcggg tcctgggatt cagccacgag gaaatcgtct ccatgctgcg gatggtctca 1260
gcagttctcc agtttggcaa cattgccttg aagagagaac ggaacaccga tcaagccacc 1320
atgcctgaca acacagctgc acagaagctc tgccgcctct tgggactggg ggtgacggat 1380
ttctcccgag ccttgctcac ccctcgcac aaagtggcc gagactatgt gcagaaagcc 1440
cagactaagg aacaggctga cttcgcgctg gaggccctgg ccaaggccac ctacgagcgc 1500
ctcttccgct ggctggttct gcgcctcaac cgggccttgg accgcagccc ccgccaaggc 1560
gcctccttcc tgggcatcct ggacatcgcg ggctttgaga tcttcagct gaactccttc 1620
gagcagctct gcatcaacta cgccaacgag aagctgcagc agctcttcaa ccacaccatg 1680
ttcgtgctgg agcaggagga gtaccagcgt gagggcatcc cctggacctt cctcgacttt 1740
ggcctcgacc tgcagccctg catcgacctc atcgagcggc cggccaaccc ccctggactc 1800
ctggccctgc tggatgagga gtgctggttc ccgaaggcca cagacaagtc gtttgtggag 1860
aaggtagccc aggagcaggg cggccacccc aagttccagc ggccgaggca cctgcgggat 1920
caggccgact tcagtgttct ccactacgcg ggcaaggctc actacaaggc caacgagtgg 1980
ctgatgaaaa acatggaccc tctgaatgac aacgttgcag ccttgctcca ccagagcaca 2040
gaccggctga cggcagagat ctggaaagac gtggagggca tcgtggggct ggaacagggtg 2100
agcagcctgg gcgacggccc accaggtggc cgccccgctc ggggtatgtt ccggacagtg 2160
ggacagctct acaaggagtc cctgagccgc ctcatggcca cactcagcaa caccaacccc 2220
agttttgtcc ggtgcattgt cccaaccac gagaagaggg ccgggaagct ggagccacgg 2280
ctggtgctgg accagcttcg ctgcaacggg gtcctggagg gcatccgcat ctgtcgccag 2340
ggcttcccca accgcatcct ctccaggag ttccggcagc gatacgagat cctgacaccc 2400
aatgccatcc ccaagggtt catggatggg aagcaggcct gtgaaaagat gatccaggcg 2460
ctggaactgg accccaacct ctaccgctg ggacagagca agatcttctt ccgggctggg 2520
gtcctggccc agctggaaga ggagcgagac ctgaaggctc ccgacatcat cgtctccttc 2580

caggcagctg cccggggata cctggctcgc agggccttcc agaagcgcca gcagcagcag 2640
 agcgccctga ggggtgatgca gcggaactgc gcggcctacc tcaagctgag aactggcag 2700
 tgggtggcggc tgtttaccaa ggtgaagcca ctgctgcagg tgacgcggca ggatgaggtg 2760
 ctgcaggcac gggcccagga gctgcagaaa gtgcaggagc tacagcagca gagcgccgc 2820
 gaagttgggg agctccaggg ccgagtggca cagctggaag aggagcgcg cgcctggca 2880
 gagcaattgc gagcagaggc agaacttgtt gcagaggccg aggagacgcg ggggaggctg 2940
 gcagcccga agcaggagct ggagctggtg gtgtcagagc tggaggctcg cgtgggcgag 3000
 gaggaggagt gcagccgtca aatgcaaacc gagaagaaga ggctgcagca gcacatacag 3060
 gagctagagg cccaccttga ggctgaggag ggtgcgcggc agaagctgca gctggagaag 3120
 gtgacgacag 3130

<210> 662

<211> 1717

<212> DNA

<213> Homo sapiens

<400> 662

atatgggaag tgactgtgaa tcacataaac atagcccact aaacccaaac atcactcaac 60
 ttcccttttag ctgggtccca aaaatgccca tggatacttc attccttcca tatgtgaagg 120
 tgactgaggt ggaggggaag gaatttggca tagaaaatga caaggatctc agacgacttc 180
 cattaaaata tcttccttta gaaatgtata agaatgggcc aggcacagtg gctcacacct 240
 gtaatcccaa cactttggga ggccgaggca ggtggatcac gaggtcagga gagcaagacc 300
 atcctggcta acacagtaaa accccctctg tattaataat acaaaagatt agccgggcat 360
 ggaggtgggt gcctgtagtc ccagctactc gggagactga ggcaggagaa tcgcttgaac 420
 ccaggaggca gagcttgagc tgagccgaga ttgctccgct gaatgcactc cagcctggga 480
 gacagagcaa gactccatct caaaaacaag aaaaaaaaag aaagaaagaa aagtataaga 540
 acatggtatc aggggatcac aattctgggg aaggggccag tgcaagttag gagttagggg 600
 ttctgatgcc tcgtgaacct aaaataaatc tgttggtttg tcccataagc gcacactgtc 660

atatcatggg ccctagatga aggttgactg aagcaatgtg aaagcgaggg aaaggaagga 720
 gaggatgagc aggaacaagg gcactgctgc ctgtaaagaa gcagctgcct gacactgttg 780
 gtagttgggtg aggtatcatc agtaccaccag cctgacctca gcctgaggaa tttgctctgc 840
 ttgtctgttg gggctttgga cctcctggat gagctgcctg tgttcctccc tcctcttcac 900
 ccctagctgt tctagctaca caaagggcta tattctcatc accatggcag gaagtttgcc 960
 agtcaccaag cctccctgtg tgcctctttg atttgcaaca tttaaagggc atgaagagac 1020
 gcattcagag gcaggctttt aaaccggaag ttaccctagt gtgagtccca actgcaacat 1080
 ccttgctggc agtaactgct gagcacagct ggacggatgt agcatttgcc ctataaaaca 1140
 tttgatactt tgccaataaa ctgtaaagag ggaaaaaaag gccctgttt tctttgcagt 1200
 tacagggcag ctttggaatg tgctaacc aaagcaaatgt gacccttgct ccatcagagt 1260
 atactctccc agccctgctg atgaataaga gtatagttag gcctctcact caaacctca 1320
 cttggcagag ccactgggat ttcagagcct gtccccagat cattcccttc cctactgctc 1380
 ttgggtggct aagggtgtcc tcaggagcca ctgaagccat ctggcatggg taccacagtc 1440
 actctccact ccacctcttt gtggtcttgt caactgggtg agctactgtg gcaaaagaat 1500
 ggtgacctgc acctccactg tcattactgt acctcttttag agctgtccct ttgcttgtag 1560
 ccatgcttct ctgttctcca tacaacaagg gtcttgaggc tgggtgcaat ggctcatgcc 1620
 tgtaatccca gctctttggg agggggatgt ggtaggctta attgaggccg ggagttcgat 1680
 attagcctgg gcaacatgga gagaccctgt ctctacc 1717

<210> 663

<211> 1609

<212> DNA

<213> Homo sapiens

<400> 663

agctctggga gaggagcccc tgccctgagg ttcccagggtg ttcccactca gtgatcagca 60
 ctgaacacag actcctcacc atggagttga gcctgagttg gtttttctt ttgactataa 120
 tacaaggggt ccagtgtgaa cagcagctag tccagtctgc gggaggcctg gttcagcctg 180

gcgggtccct ccgactgtcc tgttcagcct ctggattcac cttcgaaaat catgccatgc 240
actgggtccg ccaagttccc gggaagagac tggagtgggt ctccggtatc gattggaatg 300
gcggtgacgc tgggtacgcg gactctgtga agggccgatt cacaatctcc agagacaact 360
ccaagaagtc cctctatctg caaatgagca gtctgagacc tgacgactcg gccttctact 420
tttgtgctag agatacggtc agtggttgga tggactggtc cttcgatctc tggggccgtg 480
gtacccttgt ctctgtctcc tcagcatccc cgaccagccc caaggtcttc ccgctgagcc 540
tctgcagcac ccagccagat gggaacgtgg tcatcgccgt cctgggtccag ggcttcttcc 600
cccaggagcc actcagtgtg acctggagcg aaagcggaca gggcgtgacc gccagaaact 660
tcccaccag ccaggatgcc tccggggacc tgtacaccac gagcagccag ctgaccctgc 720
cggccacaca gtgcctagcc ggcaagtccg tgacatgcc a cgtgaagcac tacacgaatc 780
ccagccagga tgtgactgtg ccctgcccag ttccctcaac tccacctacc ccatctccct 840
caactccacc taccatctt cctcatgtc gccacccccg actgtcactg caccgaccgg 900
ccctcgagga cctgctctta ggttcagaag cgaacctcac gtgcacactg accggcctga 960
gagatgcctc aggtgtcacc ttcacctgga cgccctcaag tgggaagagc gctgttcaag 1020
gaccacctga ccgtgacctc tgtggctgct acagcgtgtc cagtgtcctg ccgggctgtg 1080
ccgagccatg gaaccatggg aagaccttca cttgactgc tgcctacccc gagtccaaga 1140
ccccgctaac cgccacctc tcaaaatccg gaaacacatt ccggcccag gtccacctgc 1200
tgccgccgcc gtcggaggag ctggccctga acgagctggt gacgctgacg tgcctggcac 1260
gtggcttcag cccaaggat gtgctggttc gctggctgca ggggtcacag gagctgcccc 1320
gcgagaagta cctgacttgg gcatcccggc aggagcccag ccagggcacc accaccttcg 1380
ctgtgaccag catactgcgc gtggcagccg aggactggaa gaagggggac accttctcct 1440
gcatggtggg ccacgaggcc ctgccgtgg ccttcacaca gaagaccatc gaccgcttgg 1500
cgggtaaacc caccatgtc aatgtgtctg ttgtcatggc ggaggtggac ggcacctgct 1560
actgagccgc ccgcctgtcc ccacctga ataaactcca tgctcccc 1609

<210> 664

<211> 1576

<212> DNA

<213> Homo sapiens

<400> 664

```

aggagggcgg agcggccggg acgccaggag ggaactagcc taagtgggga cgttccccgt    60
gcaggagaca aagagcgtcc ctggagcgat cagggctcag gagcccgacc cggagcccgg    120
ggcgtccgcg ctgacttcgg gtccccggag cctggggcac ggcagggaga agacgacggc    180
ggagaaggcg acagcggaga aggaaggcag gctgcagggg cgccgtcggc gcggcggggc    240
gggatgcgga cgccggtggt gatgacgctg ggcatggtgt tggcgccctg cgggctcctg    300
ctcaacctga ccggcacccc ggtcacgggtg caggtcagct acagcctggt cctgggctac    360
ctgggcagct gcctcctgct gctgggcggc ttctcgtggt cgctcagctt cgcgccctgg    420
tgcgacgagc gttgtcgccg ccgccgcaag ggaccctccg ccgggcctcg ccgcagcagc    480
gtcagcacca tccaagtgga gtggcccgag cccgacctgg cgcccgccat caagtactac    540
agcgacggcc agcaccgacc gccgcctgcc cagcaccgca agcccaagcc caagcccaag    600
gtcggcttcc ccatgccgcg gccgcggccc aaggcctaca ccaactcggg ggacgtcctc    660
gacggggagg ggtgggagtc ccaggacgct ccctcgtgca gcaccaccc ctgcgacagc    720
tcgctgccct gcgactccga cctctagacg cttgtagagc ctggggggcg ccgggtggca    780
aaggactcac ccccgcacag gccgcctgg cttcgagttg gaaccgggac acttgccct    840
cactggtgtg gatggaaatc tgcctttcgt gggaccaaac aggactcctt ggacgattag    900
ttcaggttgg gtttggtttt cttcttaaag agtttagttt tcctctccag agggatcagg    960
gtcctcttag ggagtgcagg gcttttcata tatttttgct gaagaatata tggaaagggt   1020
ggcatttgcg tcacgtggac caggacagc gctgaaatca gcagtgtca gaaacaattt   1080
aacatgttga aacgacaata ttctaaaata ctgatgaatc ttgcatcaat ataattattg   1140
ggtttttttt ctttttcctg ctgtataact ccttgccatg caaactctca agaggccaat   1200
atattcctgg ccatgtttga atgagcctct taaaataaac ttagagccat gcaaatgcca   1260
gcagcttaat ggatttcatg gaatgaaata ccgtgattaa ctcatagcta catatcattg   1320
cataaatggg atttatcttt tttctcactt atttttgcgg tgaaagtcga gggcatgcaa   1380
gagtttctct tccagaagcc aagaggagaa caaaggctct aatgctgtac tattccaccc   1440
tttggacgcc tcatccagga cgcagaggac tctaggttta acattttgta caaaatggaa   1500
cctgttaatc atattaaagc acatatgtat atatctttta ttataaata aaattttaaa   1560

```

acaatagttt cagtat

1576

<210> 665

<211> 1662

<212> DNA

<213> Homo sapiens

<400> 665

agtcatggct ctaaatatgt acctgcaatc ggatgttgag gatcaccgag cccgcgacgt 60
agaagtacgg gaagttcatg cgcagctgcc aggccagctc gaagaaggcg agcagggtgc 120
gggagagccc cttgcagaag acgccgtacg aggttctcca gcatttggct caaggcccca 180
agggcacatg tgacaagaag gcgccggctt tttaaacatt ggaagttctt ctgtgtcagt 240
tctgtgacag aacatttact taacacatca tgaaggctag tttggatgtg gaggggaata 300
gactccatct atccatatga gagttggagt ctactctgt tatccaggct ggagttcagt 360
ggtaggatca tggcttactg cagtctggaa ctctgggct caaacatcc tcccacctca 420
gccttctgct gcagaagaat attttgctg ctggaacctg ctgtatctac tcaagagtgg 480
aagttttcac agaagatgca gcacactgtc aaaatatccg gagacgccag caccaaagcc 540
cacagaggag ttaaaagtgt gatcactttc ttcctactct atgccatfff ctctctgtct 600
ttttcatat cagtttggac ctctgaaagg ttggaggaaa atctaattat tctttcccag 660
gtgatgggaa tggcttatcc ttcatgtcac tcatgtgttc tgattcttgg aaacaagaag 720
ctgagacagg cctctctgtc agtgctactg tggctgaggt acatgttcaa agatggggag 780
ccctcaggtc acaaagaatt tagagaatca tcttgaatat attagaaaaa aaatagctcc 840
taagaaattc ttgtatgtta tataaattta tacttcctta agattctttc attgtgtata 900
actttgtgaa ttttaciaaag atatgcttgg aatcaacacc atccaaacat atcacaaatt 960
aggatatatg aaagtatgta tattaccata cagagaagaa tgcgaatact ataaagagtt 1020
cttatacaaa cagataatat agattttgta tcaatcattc accttttttg agatttttaa 1080
atgagaaaac ctataatgta taaaatacat gtgtgtatgt atgtatgtga cacagttact 1140
aaaaataggc ttcttaaaact tacatctcaa tctggtagat aaagtacata aaagaatatg 1200

gaatttttagt acctatatta agtggttttta atttttgtat aatatttagt acctgattag 1260
 cgtgtatgca aaaaagtaat ttgcttcgtt tgttgaatta gaagccagct gccttactaa 1320
 actaccacat ttgctttgct cattctcttg gctttgcaga tagaaaatta tatcatctgc 1380
 atatagtgac ttataatgat tattttactt ctccatttta ctacttgtaa ttcttttttg 1440
 gtatcagttg tataatgaaa tggtttgaac attcaaagtg ttaagtaatc ctgatcgtaa 1500
 ctgctgtctt tgcaaatgga gtgttttcta gtgttttaac aataaacgta atactgactc 1560
 tagctttgag ataaattctt ttaaaaatat tcttcaggga gaatatttgt ttcctatctt 1620
 cctgtgtata gtattgtaat aaaatctctg ttaaaaacta tc 1662

<210> 666

<211> 1745

<212> DNA

<213> Homo sapiens

<400> 666

aagaaggcag acgtgaaggg cccggctgtg ggcagagcac agacagccct ggtccccagc 60
 cctgcctgac gcccctctgc aggccaggac ctgatccccg ccaccgaatc cacagctgcg 120
 tggagaaggc gctgagcctg ggcgtctgca gtgggagata gctgggctgg gaccatccag 180
 agctccggac cccgagggga tgggacatga gccctgtggg ccctgcgatg ggccgtctgt 240
 caccctgcag catggatcct gtccactggg tctgcacca agcactggga caccagccat 300
 ggccatacgg ggtacagcac gtgggacctg ctggatgtcc ccctcacagc cttttccctc 360
 tccccagga ctgactccag caccgaggc ctttcccca acctggcca aagctcccct 420
 ttctctgaga cttagatttc cttttgtttt tggaaacca gttgggtccc acctggcgctc 480
 tccctggcac agctggggag actgagacca ggagggaatg gacctgcctg agggcacaga 540
 ggaggcagca gctcgcaaaa caaggggcca ttttgtttca gttttgacct ttccagttct 600
 ggggttcaga atttcctcca gttagggaag gtgtctggtc gcctccaagg aggaggggag 660
 gccccaggct cttcgactcc cacaggaaga ttgcctgtcc ccctcccaa cccgtccact 720
 gacctctccc cagaaggcag agaaaccccg gttccagtag ggctgtggct gccttcgggtt 780

gcctgttccc tgtgcaagtg ccctgccctc tcagagtagc agaggaacct tctggaagcc 840
 atagaagcct ggcctctgca cagggaaaag ccagggtttc ccttgtggga tcctgtggag 900
 aatgagctca gacggattcc tcatattcta atccgacacc actggagacc ttgactcctc 960
 cttccagaac gggaaccccc ttgtccagcg tcacggatac cgggccccac agtctccctg 1020
 catctgcatt gaccctccac ggagctcaca gcagggaggg tctgcgtggt ccacctctac 1080
 cccacgcaca ggcaaacctg agaaggaacg tttaatcacc attcacagcc cttgcttctt 1140
 tctagagaaa taaaacaaac ttacaccaga atatgaaaac aacgtgaaac acacaaaagt 1200
 taagtgtgag cccgtgcact gtgacaggtg tcagcagcgt gagtctcgcc agcgtcagga 1260
 gctggaacgt cttcatcatc cccgagtcct ctggctctcc ctgcccttcc gcagcgggag 1320
 ggtccactct tgtgggttcc cagtcctccc tgaacttccc cagagggagg gtccactctt 1380
 gtgggttccct ggtcctccct gaacttcccc agcaggaggg tccactctcg tgggttcccc 1440
 gtcctccccg cccttcccc a gcgggagggg ccactcttgt gggttatgtg attctagctt 1500
 cccgctttct gtccggagcc tgcagaggaa tgggaccacg agctacacgt gggttggacc 1560
 tgctgtttt gagagagggc cctgtccctg agggttcata tcccttgaac atggttgaga 1620
 gttttgttcc ttttcattgc tgacttgaag ccatgtcatg aagagccaca gcttggccgt 1680
 ttttctgatg atgcccatgt gggtggattt tagttcttac tactatgaat aaagctgctg 1740
 ttagc 1745

<210> 667

<211> 1677

<212> DNA

<213> Homo sapiens

<400> 667

agtttctctg ttatgttcca ttgctttatt tggctctccc ttcatcaata ccagattttc 60
 ctaattatcg tagctttaca ttgttctggt atccagtga gcaaatcatc ctacttgaag 120
 agtcagactc catgccaaat tcctatgtgt catttttcag gcccaaccat aggcaattac 180
 aaaggccgta cacctcatga aggaaagcta ccctccccat gccagacttg gggcacagcc 240

aatgcattgc agtctctgaa gaaagttgca gtcaaggacc cagacccccg gccagccat 300
gctcttaggc atatctgcat tcctagtcca agcacctctg tttagaggtc tctttattgg 360
tggcctcctc taaacaattc tgagaccatt ttactgggat caggaacctt gatgccatt 420
gtcttcactt tcagtattta gtacttttcc actcctagca cttttccctc tttccctcc 480
cagcccttag gccataaaa tggctggagc cttttattta ggtttctcat agtagcgaga 540
tgatcccat atctttgctg attgttttga cacttgtttg actctgttcc atgggtaaga 600
atgtaacact gcaggagcca gcagtttttc ctgctgagcc tcttgctaata gctactgctg 660
atctaaggct tgactgatac cttatcattt tggcatgttt taactgacca ccacgacacc 720
tggcagctca gttctttctg catcagctta gttcttaaca ccaccttctt ctctacttc 780
ataagtgtct tggctgttcc tggttctttg catttacata taaattttag gatcagctgt 840
caaatttgac ccactccctt ctaaaaaatt attgggattt tgattgagag tgtattgaat 900
ctatagatta ttggggagaa tcaacattct tacatgaatt ttctaattca tgaacatgg 960
atagcattcc atttcttttag ggtcttaatt tttccaata atattttatg gttttctgtg 1020
tcggcttga tcatctttat tagatttatt tctagacatc tgacatttct tccatgtaat 1080
tgttagtagt gtcattttta aaaatttact ttctgtttac agagacttag cattgatttt 1140
tatatattga cttttagacc agcattctaa taacatatag atattttagg tctttacata 1200
taccattcgc aatgatgac agttgtattt cttcctttca aatctttata ctttttttcc 1260
ctcttattac attagtatga catctactac catgataaaa agaagtggta atagctggca 1320
tctttgtctg gaaggcctgc tgtgacctta actgtaggtt cttttctcca gtgactcatc 1380
ttgagattac ctttctctca tacctccaac atttttgaga cttggatatt ccaagcctgt 1440
gctaaccatt cacttctttg gctacactca gcagaagaga aatagaaagc tgccaacctc 1500
ttagactcaa acgaaatcat tttccattt gttaccctca gaaattggct ctttccatcc 1560
acaggttcca catccatgga ttcaaccaac tgtgtattgt cagtattcaa aaaaataata 1620
aagtaaaaat aaacaaacaa ataaataaat aaaagttatc ttgatcctga tcttcag 1677

<210> 668

<211> 1790

<212> DNA

<213> Homo sapiens

<400> 668

agcagtcacc	ccaccaccag	gtcccagagc	ccagggctgt	gtgttccact	gggagccttt	60
gagagggcca	acgcaccatg	gagactggac	agagaacatc	tcgaaaagtc	cggaagctgg	120
gtccaaccg	gcggcggcag	acaagagagc	cagctgatgg	tgaaggcgct	gcagtggccc	180
cagagccaga	gtcttgggtcc	tctcaggcag	cggcagaact	gcaggccttc	ttccaggact	240
gtggtgccaa	ggagaggggc	tttgtcacc	gcgaggacct	ggcgggtggc	aagttcagct	300
tcctgggcag	caaggaagag	tcagagatga	tcttcgactg	ggtggatgtg	gagcgggaagg	360
gacacctgtc	ccttgaagaa	ttcagctctg	gactcaaaaa	catctttggc	tccagccaga	420
gccccacag	gctccgcaga	aggaagccac	tgccctctaa	gcgggtatct	gctaccacca	480
gcttcccagc	tctggaggag	gcggatgctg	aggagaagga	ggcgttcctt	gccttcattg	540
agcagctggg	gagtgcagtg	ccgccttggg	tcacaacatc	ctggagcctg	tagtaaacct	600
ggccaggtca	ctcaggatgc	aagaagaagg	cctgaaggac	tcgctgggtga	aggtggcccc	660
caagaggccg	ccaagagat	tcggctgttg	ctcctgatca	cctgtcctgt	cctgggtagg	720
atggacaccc	atgggggtttc	ctgtccctca	gtcctgtcc	tttgttcctg	gacagcaacg	780
acacagagga	ccagcttggg	ggttcaggaa	aacccttctc	aactcaggac	tcggatccca	840
gagcagggcc	gcattcacctc	tgcccttcac	actccaaagg	agggccttgc	tgagtgaaca	900
aggcttgagg	ggcaggggta	tggcaaaact	ctccaaacaa	agaaagtcta	gaaaaacgac	960
ttaaggaaaa	tacacaaaaa	tattggccgc	acatctgtgg	gtgtaaaatt	ttagggagaa	1020
tgtggggggg	gtgggggtgtt	actttccatt	ttacacatat	ttgtattttc	agattttcaa	1080
caataacagt	attcaataca	taatcagaaa	aaagagatgt	ggaggaggag	gagagaaact	1140
tcccaaggag	ctcccttggg	tgctgctggc	tcctaattag	tgtaacctgt	taatcacatg	1200
ttgctcggtg	ttagagcggt	ccctctgtgc	tctgcctggc	agggcgctgt	tggcctggtc	1260
tcctcgcta	tttctatttg	caagcatggg	ctttcttccc	agcagaatct	ggttcctggg	1320
aagagtaatg	ttccaaaggc	ctctgatatg	cctcgatgcc	ctcctgtctt	ccagagcccc	1380
aacctcactc	cctttcccca	ccatacaaaa	cacacctccc	aggggtcaca	tttgggggtc	1440
ccgccccctg	ctccaatgcc	atggtgtccc	caagcacagg	gctttggcct	gagttgtcag	1500
tctctggatg	catttgaggg	gcagctaggg	tgtggctggg	gggtccaagc	agctggggag	1560

ccgagactca gaatcattca cacacttcta tttggagctt ttgtggaagt ttccagaatt 1620
 ccataatatt cacctcctga atggtggctg ccccttatca gccagggctg gggtttccag 1680
 tgccctcgga gagcttgctt tagagtcttg gagagacggc catggtctgc gtttgtatgt 1740
 ctgtcacatc ttaccatcat cacaaattga atatacaaca tgtgccaggc 1790

<210> 669

<211> 1842

<212> DNA

<213> Homo sapiens

<400> 669

gaaccagcta gatgatacat gcaagacacc ttggtctcaa gagaactgta acctcatctg 60
 aggctctttt atactcctct gatcaggtag ccaacactag cttgcatacc agggtctaaa 120
 accagaaaca agctggtata gtcaagctgg ggcagtggca tgcacctgta atcccagcta 180
 cttggggaggc tgaagtggga ggatcacttg agcccagaag ttcaaagcca atgagatttc 240
 atctccaaaa agaaagaaag aagcaagaaa caggctgctc cctggtctgt ctcccacccc 300
 agcacaggac tctattaatc actggctagt acatttcatt taggtttggc caaggaacag 360
 caccaaggct tcaggcctcc ccagagataa atgagtacag agttgcagca gaccagcaga 420
 cattgatcct gtctgacaca acgaagtttg gtggtcaatc atgccagtct agaggctgtt 480
 tctggggggag gagaagtaat ttccaaggcc ctttccaggc ctaatattct ttgactacag 540
 tgctaagagt gccattgagg caactgtgcc atggagctag gatttaaacc caagtctgtg 600
 tgactccagt gtctgtcctc tttcctccat accatcctgc ctccaaagag agaaacaata 660
 gcaagacaac gaagggacca taggtttagg tgtggaagaa aagcaccttt gccagggata 720
 gtaatttact tacctgaggt ttatccacag ttctagtcta atagaggaga atgctggcca 780
 gtggaaggaa agtatgtggc tgaagaacaa atgctctgtc cgtccttttag taggaagcag 840
 tgagaaaata ttttaaggaaac taaaatgcaa aaaaaaatcg cgcagtcaga gactttacca 900
 gtaaagtctc taaggctctg agtcaacagg atttaatcag gacccaaaag gagtaatgaa 960
 acctacagag tctcacacca gaagtatatt attctagttt ttttgtttct gttgtttttg 1020

agacagtgtc tcactctgtc gcccaggctg gagtgcagtg gcgcgatcct agctcactgc 1080
 agcctcaggc ttccaggctg aagcgatcct cccatctcga cctcccaaag tgctgggatt 1140
 ataggcatga accaccacat ccggccttta ttctagtttg ttaagattgg ttaatagtta 1200
 aggtgctagt gtcttatttc tgttatagta acagtttcta tctttctggg agcttttagg 1260
 atcttttctc ctaagtgtag acctctctac attcattggg ctgggtattc aatgggcatt 1320
 ttcagtctga gctcttgggt ctcccatcaa gcctgggaaa ttaccttcta ttatttattt 1380
 gataacttcc tactgtctgt tactctcttt ttactctttt ggtattccca ctattcagggt 1440
 gagtaattaa ttgatcactt attttttttt catatattct tttcctactt tctaagggtc 1500
 tcgctctgtc atccaggctg gagtgcagtgc gcacaatcac agctcactgc agccaccgcc 1560
 tcctggactc aagtgatcct cccacctagc ctcccaagtt ttgggactgc agacgtgtgc 1620
 taccatgcac agctgatttt atattttatt ttgtgtagag atgggggtct caccttggtg 1680
 cccgggctgg tctcgaactc ccgggctcaa gtgatctgcc ggcctcagcc tccaagggtg 1740
 ctgggatgac aggtgtgagc caccgcaccc agctgtcctc tcctttatat tccggctctc 1800
 caatctagtt taaaatttca gcaattataa tttccacag ct 1842

<210> 670

<211> 2068

<212> DNA

<213> Homo sapiens

<400> 670

gtggaagcgc cgggccctgc tgcggggggg agagccactg acgccgggac cgggaccgcc 60
 gccgccgccg ccaccatgct ccatgcctga ccgtgactcg catctcgcca ggccagtgca 120
 tttcctcttc tggctgtcat cggaattttc aagtgtcaag accccacttt gttcctgttg 180
 tcctggttcc ggctttggga agcatgacct ttcaggcctg ctcagagaca ccgcatgca 240
 ctttgtgcgt tatcagcctt acagagactc tacggtcagg agtttttgtg gcaatggaac 300
 tgctgggggtt tcatctgcaa atgaaaacca tctggccagc tgcttgggtc agatggaaac 360
 cagatgggag aagtcaggag cgggcagcga gcagcctggg gcagcgtccc tagtcacgtc 420

atgtttccac ttcctcttgc cccctcgccct cccctgcctg caaaacgatt gttattaacc 480
catcacctcc tccaatgccc aggcagttcc aggatacagg gttctctcgc ccaggccttg 540
gccagcccag aagatgtgac ccagaaccta gaaagagtga tcagcagctg gactgtgcct 600
tggacctaat gaggcgcctg cctccccagc aaatcgagaa aaacctcagc gacctgatcg 660
acctgggtccc cagtctatgt gaggatctcc tgtcttctgt tgaccagcca ctgaaaattg 720
ccagagacaa ggtggtggga aaggattacc ttttgtgtga ctacaacaga gatggggact 780
cctataggtc accatggagt aacaagtatg accctccctt ggaggatggg gccatgccgt 840
cagctcggct gagaaagctg gaggtggaag ccaacaatgc ctttgaccag tatcgagacc 900
tgtattttga aggtggcgtc tcatctgtct acctctggga tctggatcat ggctttgctg 960
gagtgatcct cataaagaag gctggagatg gatcaaagaa gatcaaaggc tgctgggatt 1020
ccatccacgt ggtagaagtg caggagaaat ccagcggctc caccgcccac tacaagttga 1080
cctccacggt gatgctgtgg ctgcagacca acaaactctg ctctggcacc atgaacctcg 1140
gaggcagcct taccagacag atggagaagg atgaaactgt gactgactgc tccccacaca 1200
tagccaacat cgggcgcctg gtagaggctt gtgcagactt ttgcagacaa atcaaaacaa 1260
gaagctctga agaatgacct ggtggaggct ttgaagagaa agcagcaatg ctaaacctct 1320
gtttcatgct aaccagacac gccgtgcact cgtttagattc ctttcttaga aaactcgttt 1380
tctgctccct tccctcgctc cttccctccc cgacaggctc cataacagct gcatcattga 1440
ccgcacagcg ccattctctc ctgagaataa agccgatagc caccctctc cggtctccgag 1500
cctgcttctg ccacacctcg ctctcagttc tctccacatt tccatagaga ccgtgtgggt 1560
tttgttcacc cgggcccccc gtcttctctc ctgtcccccc atttataggc ataaaatcca 1620
ctgtctgcca gcctcccttc cctcccacct ttttgggtaca ttggtgtaaa aaatgtaaaa 1680
caaaaaaatt ttatgaacta actgtggtgt gtgaaagaga gaagaaaaac tggaaatctt 1740
attccgtgtg tgtttgggag ttgcttgggg tcgggggtcg tggggacagg ggacagctct 1800
gggagcagag gtggccctcg gtgccgtcct gcgcagactc tcccgtcca cggaggccgc 1860
gggggtggggg ctgggggggg tgccgccgac cgttccgctc ttccggccag gtgcttttct 1920
gtcaatttct atggaatgca aaaggaggtt tttgttttat tttgtttttt tgtaaagctt 1980
aagaaaaaaa tctacatctt atacttgagc ctctatactt aaaaaagaa aagaaaagaa 2040
atcaataaaa agaaactggg gcgcagtt 2068

<210> 671

<211> 3239

<212> DNA

<213> Homo sapiens

<400> 671

```

gtctcttagc aactaagccc ccggtcctc cagaagcccc tcttcgcaca tgcgcaaact   60
gcggacgggg aactgggctc cctagccctg gcgtttttgg tgttgctgtc ccagccagaa  120
tcgcgtctgg ccggtgggaa gccgggaact ccagccccct gtaggagagg agaaaggagc  180
gagatcatga tacatgggtga tggcttgcag agtcgtaaac aaaagaagac acatgggact  240
tcaacaactt tcatcattcg cggaacagg aagaactttc ctaggccac taaaatcatc  300
caaatttatt atagatgaag aatgtcatga aagtgtatta atcagttcaa cagtaaggct  360
tcttgaaagt ttggatttaa ccagtgcagt gggacaactt ctcaatgaag cagttcaagc  420
acaaaacaac acatatagaa ctggaatcag tactcttttg tttcttggtg gtgcttggag  480
cagtgcggtt gaagaatgtc ttcattcttg tgtccccatt tccataatag tatcagtaat  540
gtcagaaggc ttaaactttt gtagtgaaga ggtagtttct cttcatgtac ctgttcacaa  600
tatatttgac tgtatggaca gcacaaaaac attttctcaa cttgaaacat ttagtgtaa  660
tttgtgtcct tttctacagg tcccttcaga tactgatttg atagaggaat tgcattgtct  720
caaagatgtt gcctctcaaa cactgaccat ttccaacctt tctgggagac ctcttaaate  780
atatgaatta tttaaacttc agacaaagg tgaagcagat aacaacacat cacgaactct  840
gaaaaacagc ctgcttgcag atacctgctg cagacagtca atactaatcc acagtaggca  900
ttttaatagg acagataata ctgaaggggt aagcaaacca gatggatttc aagaacatgt  960
tacagctact cacaaaactt acagatgtaa tgatttggta gagttggcag taggcttgag 1020
tcatggagat cacagcagca tgaagttagt agaagaagca gtacagctgc aatatcagaa 1080
tgcttgtgtg caacaaggca actgtacaaa accatttatg tttgacattt caagaatttt 1140
cacttgctgt ctaccaggct tacctgaaac ttcttcttgt gtttgtccag gatatatcac 1200
tgttgtgtca gtatctaata atcctgtgat caaggaattg cagaatcagc ctgtgcgaat 1260
agttctcatt gaggggtgacc tcacagagaa ttaccgccac ctgggattta ataagtctgc 1320

```

aaatattaaa acagtattag atagcatgca gcttcaagaa gacagctcag aagaactgtg 1380
ggcaaatcac gtgttacagg tgttaatcca gttcaagggtg aaccttgtcc tgggtacaagg 1440
aaatgtgtcc gaacgcctaa ttgaaaaatg tataaacagt aagcggttgg taatcggtctc 1500
agtgaatggc agtgtgatgc aggcttttgc agaggctgca ggagcagtac aggtggccta 1560
cattacacaa gtgaatgaag attgtgtggg tgacgggggc tgcgtgacct tctggagaag 1620
cagccctttg gatgtttag ataggaacaa cagaatcgca atcttattaa aaacagaagg 1680
aattaatttg gttacggccg tgctcactaa cccagttact gcacagatgc aaatcaaaga 1740
agatagggtc tggacatgtg cctatcgttt gtattatgct ctaaaagagg aaaaggctctt 1800
ccttggagggt ggtgcagttg aatttttgtg tcttagctgt cttcatattc ttgcagagca 1860
atctctaaaa aaagaaaacc atgcctgctc aggggtggctg cataatactt cctcttggct 1920
ggcttcatct ttggcaatat acagaccaac tgtgcttaaa ttcctggcaa atggatggca 1980
gaaatacctt tcaactctcc tatataacac tgccaattac tcatcagaat ttgaagccag 2040
cacatacatt caacatcatc tgcaaaatgc cacagactct ggctctcctt catcttacat 2100
cttgaatgaa tatagtaaac taaatagtag aatttttaat tcagacattt caaataaact 2160
ggagcagatt ccgagagttt atgacgttgt tacaccaaag attgaggcgt ggcgccgagc 2220
attggattta gtattgttag tacttcagac agacagtgaataaataactg gacatggaca 2280
cacacagata aattcacagg aattaacggg ctttctatctt ttgtagtggt actggctaag 2340
tctttggaaa ataatttttc ataatatgtc atgctaataa taaatatatt gatagccaag 2400
tcatggtgcc taaaatgcc gctattgcc agaagaaaat agttgatgtc tgtcaataac 2460
tgtgcatggt ctgagatctt accctactta taagctaaca agttagcctg ttactgtttc 2520
gtgggatgct acagaatgca taagacacct gggtcagaaa caaaggactt atcactcaca 2580
gcaaaagctg tagccagagc ttcattgttg ttttattcag ttcctcattt tgctagtctc 2640
cacaggagga acacaaaggg cccatgatga aagcctgcac acagtgggtt atgttgtaag 2700
cttgggttat taactgcttt tatagtaagc aaaaaaatcc tggctcttgt ccaaagggag 2760
ttattacccc atacttgaag atagcttagt gtaaacacaa gcctaggaca tggactagggt 2820
aaagacaaag tccttgcatc cttgacatac ccagtaagta tgcagggaca ctgagagccc 2880
atagtggata gtctcttcca acagtctgct cctcagcctg agatgttctt ggccaaactt 2940
gaattttcac atgagtatgc cactctatca gctactctga ttaacctgac agtcgggttg 3000
tttagtcagt accaaatttg ttcatttgggt ctcatatagc aattaatgca ggctattatc 3060

agacacagca gcaggatgaa gccaacctgc agtattaacc tcagtcctgt cccccaaggt 3120
cttgactcaa tcaactgtaa gttccaaggg aggaccaata ggtcttttta ttaggcagcc 3180
agaatgtagt gaaggacaat ttattatact ttatgacca ataaaggag ctttgactg 3239

<210> 672

<211> 3727

<212> DNA

<213> Homo sapiens

<400> 672

attttacttt acatacattt tccaacacgg agcggcttgc acacatgcag ctcttaggcc 60
cgggccgcac gtctcagaag ccccggtgtgc gactttgacc gccgcacgat cctctgccgg 120
gggaggtggg cccgctgcgc tttgggagca cccgcgcccg aactgaggt ctcggtgctg 180
tgttcggcct ctctgtccct gcgggtcccc tctgggagca gaggcggtcg gaaaaccctg 240
gggctgaagt gcaggcttcg ggaggacgcg acctgccaag atcagctccc ggcacgtgat 300
gggagcctgg ctacacttcc cccagcgcac gatgggccgc agcctccccg gtcggcctgg 360
cctgctggaa aggagcagct ctgtttccag aggcttctgg cgaagcccac ggcctcccat 420
tgttggtga ttataagga aagaggggaa aggccaagtg tggatgcat tagcataacc 480
taatccagac cccatgacaa gtccaggatc ctgcaggag agggcatcct tgaacgtgaa 540
ggactggctt tggaaacttg gcctcccga agaaaggctt ccgggcccac ccacaccac 600
cttgtggacg cccccgcagt cgaatacact ccacaggaag acggaccaca aacagcagca 660
gcctccggtg tcggcccagt gatccgggag ctgagagtgt aggtacctga cggcttgact 720
cgtccccagg acaaggcctg tgagagggag gggggcactc tgagtgtgcg aatgtgtgag 780
tgtgtgtgtc tgggcacgag tgtgtatgcg tgtgtgtgtg catgtactat attcatatgt 840
gtgagagtgt gaatgtgtgt gtctgtgggt ctgcgcacat aagtgtgtgt gtgcatatac 900
tatattcacg tgtgactgtg caaatgtgag tgtgtctgta ggtctgggca cgtgtatgcg 960
tgtgtgtgcg agtactatat tcacatgtgt gagtgtgcga atgtgtgtgt ctgtgggtct 1020
gggcacacga gtgtgtatgc gtgtgtatgc atgtactata ttcacgtgtg tgagtgtgcg 1080

aatgtgtctg tgggtctggg cacatgagtg tgtgcatata ctatattcac atgtgtgagt 1140
gtgcaaagt gtgtgtgtct gtaggtctgg gcacatgtgt atgcatgtgt gtgcgagtac 1200
tatattcacg tgtgtgtgag tgcgaatgtg agtgggtgtg ggtctgggtca catgtatgta 1260
tgcattgtgt catgtattat agtcatgtga gtgtgcaaagt gtgtgagtgt ggggtctgggc 1320
acacaagtgt gtatgcatgt gtttctattg tattcatgtg agtataagtg caaatgtgtg 1380
tgtgttctct gcacacacaa gtgtataggt atgtttgtgt gtgcatgcat tgtattcatg 1440
tgagtgtatg tgaatgtgtg actgtgagag tttgagtgtg cctgtgtgtc tggctatact 1500
agtgcgtgcc tgtgttcgtg tgcattcagtc tgggtgtgcc cgtgtgtgaa tgtgagtgtc 1560
tatgcgtggg tgtcccaata tgtgtgtgcc tgtgtatcca tgtctagggtg tgcccgtggg 1620
tgtgagtgtc tgtgcgtggg tgtctggata cgtatgtgcc tgtatgagtgt tgtatccatg 1680
tctgggtgtg cccacgggtg tgagtgtgaa tatgtaagtc ttgcgtgtgc atgagtgtgt 1740
tcacatgagt gtgaggggtct gtgcataaca gcctattgtg tgagtgtgtg catgtggatt 1800
gcatttatgt gattccgtgt ctgtgcacgc acgtgtcccc gcacaagcca gcccgagagg 1860
gagtgtcccc tgaacacacc ctggcagcac ttgcagcgtg acgaggttga gggaatgtgt 1920
cgctgagggtc gtaaattgcct ctgcacgct ccaacacgct ggagcaacag cagcccgtga 1980
cgccggccgt gcagccgtga agtccgtgga gcgtccctaa tcttggggg tttgtctttg 2040
cgccgacagc ggtgctactc acagctccag aactctgcag cttccccct gaaacgggaa 2100
cggaaggtg gcgcgggcgt ccacacctg agccacagcc ggcgggaggc acaggctggc 2160
aaaactgcct ctcatgtgtg agaagagaca aacaaaccga acgccaggag cagaggaaac 2220
gaagacgatg tggccaagaa aaattgcatt tttctttcca gttttgctaa aatagccttc 2280
tcattggctg cgactttgga ggtggcagaa atcatacgtt taatcacggc gccctcctgc 2340
ttgccaaggt tagcaggggc tgcactgctg tgccctcctg tccctggagg ctctggtggc 2400
cccaagcccc aactgccag gctgggtgcc aagctgccgt gaccccgaa ttcggcctgt 2460
ggtgatcggc cttccctggc acggagctga gttaggggtc ctagaatcag tcccagccac 2520
gtgaggctct ccctgggatg tgagggtcgt ctgctctgtt tacacggggg ccacagtga 2580
gatcccagcc cgggcagggg aggggcaaat ctatgccac ttcaagcttc cacttctgcc 2640
cgctcaaag tgccggagac tccggcacct ctgcgttctt cttcccgtt agggacagaa 2700
acctgggaaa gggctggggt ggcaaggaag agccccagga agacgcgagt ggctctcccc 2760
actccctaca ggacctcct ccccaagcc catgggccgc cttctccagg gacgttccc 2820

tgtcccaccc accgggcaag gtgggcccag cagggtctcc ttttcaccgt gcgccccctc 2880
ctgtggccgg gtcctgggct gatgacttca catggtgctt ttacaagtca ggttttattgc 2940
ggatatcacgt acacacataa ggctcacccc ttttcgatgc acagccgacg acttggttaag 3000
tgtccagagt gggggcacttc tgccccgaca gaggcagccc acattttgcc cctctgcagt 3060
caggccccctt cccggcctcc aaccaccacc tgtctctcct cggtcctaca gctttgcgtc 3120
ctccagaatt gtcctgtgag tgactccac aggatggaga cttttgtgtc tggcttcctt 3180
cacttcgcag caggcttcgc gggaccctgt tggtggcacc agcgtccgc ccttggtgct 3240
gctgagctgt aggttgtggg acaggtggag gtacacagtt gctcacgggt tcacctgtgg 3300
atgggcatgt gggctgttgt gagtgaagcc actttagaca ttgctgtgca ggtttggtgg 3360
ggacgtgcag tttcatttct tttgagagtg ggattgctgg agcccatgtt aagggtacgt 3420
tcaactcatc agctcaactg tcttccaaat ggcagccccg ttttccaccc ccgccagcaa 3480
cgcccgcgac tccaggcgcg cggcattttc atcagcacct ggcagtgggtg attcataatg 3540
ctttcaatgt taatttcct catgactagt gatgttaaac atcttaggta ttatttcatg 3600
ggttatttcc aatcttttac ctacttttta gtggattata tttgtcttct tagtattgag 3660
ttataagagt taaatattgt ggggtacaagt cccctgtcag aaatgtgttt tgtaaataat 3720
ttcttct 3727

<210> 673

<211> 2592

<212> DNA

<213> Homo sapiens

<400> 673

ttaaagcata accacaaact gcaaaaagct aggttaagcta ttttgttgca gtcataagg 60
tggtgaaaag gactctcctg tgtttcttac tcataggcaa ggacaacatg tgcttttttg 120
tgagctgctc ataattcctg aaatgtgtgg tgccagggca agggggccat cactgcagtc 180
aggccctcag aggagtcctg caggcttcct accagtggtc tccaagggtg caggagtaac 240
tggggctggg ccagcctccc cccttacaag gctgctttcc aggaagggtg gtctggtgta 300

tctcatggga gaatctgggg tgtctgtagt gtcacccctc cagcagcgcc acaaggactg 360
aggttgggta ggtgtgaggt tccagaggac agcaggacac tctcgcatac tttgccaaat 420
gaggcctgct cagaggagta ggagctgaaa gatgggtgcct tccaccctct tgggctgtgt 480
gccccatcaga gcaggctcag cctgcaaagg ccctgcattc agaggctctg taatctactt 540
gttgcaggag aaagaaggt aaaaatgatt tttttaagaa aagctatatt attgcagctc 600
tttcccaaga gctgttctgg gaatggctgg tcttcatatt cccagtggag aggggaacaa 660
gtggggctgg gcatatacct attccggctt ctagtgggat ggagttgggg tatagaaatt 720
aaccaggaag atgtttccac caagcctgct gtgagtcaat tgagggagtg tttggggctc 780
caggagactt ggacgggggg agtttgggta gactaggaaa ggaaagtgcc atatcagggt 840
accggtaccg gcaagctcac atctcagcca ggggccatgc cccacttccc ctgacccag 900
ctgtcttgtc tccactctgt gaaaccaca ggggatgtga taaacagggc tattaggggt 960
atcagccacg tcgagcccc agactctgtg cacttcagac cagcagcagc aggagggctc 1020
ccgagggcct tatgagaaaa cctgtgtgga catcccttgg tgtacactaa gacagagcag 1080
agcccagcgc tccaagcct tcctccttcc agcttctacc tccatgctag cattgctggt 1140
gttagagagg aattaacttc ctggtctgtg cccttctcta gaagaatata agatgctcct 1200
cctcctcacc ctttctcagc ctctcccaa gtcttctct tctgcaccac ccccgagtcc 1260
aaaccacact cttgccccag cattcaggct ggaaaacact gatgtggact cagtatgaca 1320
actgagatgg gggaagccag acatgtgagg acgctgtcct ccgagaggtg tccccggctg 1380
ttagccagct gtgctgtggt gctgtgggtc tgtcataccc tcccttgctt ctgttcacac 1440
tgggaggccc actcctggct cacctctccc tctcaggac ccacgtggga gcctggatcc 1500
ctggactgtc ctgggcatag gtttcaggga cctccttctg tgtcatcaga acccagagga 1560
attcttctcc taaaaaatac gtatggcata ccaatctgtg cggggcagtg tcctaagcac 1620
ttagactaca tcagggaaga acacagacca catccctgtc ctcatgcggc ttatgttttc 1680
tggaggaagg tggagacaca agtccttggc tttagggtc ccccggtgg gggctgtgca 1740
gtccggtcag ggcgggaggg gaaatgcacc gctgcatgtg aaccttacca gcccaggcgg 1800
atgcccttc cccttagcac taccctggcc tcctgcatcc cctcgctca tgttctctcc 1860
accttcaaag aatgaagagc cccatgggcc cagcccctgc cctgggaacc aggcagcctt 1920
ccagacctca ggggctgagg cagactatta gggcagggtc gactttggtg acactgcca 1980
ttccctctca ggccagctca ggtcacccgg gcctctgacc caggcctgtc actttgagag 2040

gggcaaaact gagaggggct tttcctagag aaagagaaca aggagcttgc caggcttcat 2100
 gtagccgaca cacgtctcag gattttaagt ccacattggc ctcacactac cagggccaat 2160
 gccc aaaata aggagtcca atttggggcc aaatgaggaa ggacacagac tctgccctgg 2220
 gatctcctgt gctagcggcc aatgacaaat ccagtcattg gccaccagcc acctctgcag 2280
 tggggaccac actagcagcc ctgactccac actcctcctg gggaccaag aggcagtgtt 2340
 gctgtctgca tgtccacctt ggaatctggc tgaactggct ggcaggacca agactgcggc 2400
 tgggggtgggc agggaaggga agccgggggc tgctgtgagg gatcttggag cttccctgta 2460
 gccaccttc cccttgcttc atgtttgtag aggaaccttg tgccggccag gccagtttc 2520
 cttgtgtgat aactaatgt atttgctttt ttggaaata gagaaatca ataaattgct 2580
 agtgtttctt tg 2592

<210> 674

<211> 3202

<212> DNA

<213> Homo sapiens

<400> 674

gttaaacaag tttccttttc attgtttttt gctattttac ccagccctta aaatctcaac 60
 tatcattgcg gttagcacat ttaccagaga agcactgac aggacaaaag aagtgcagaa 120
 cttttcttta tatttattha cttcaacagc cattatatca gcacattatg tatagaccag 180
 tcatggcttc ctgtacatct gtgtcactat ggatgattgc ctttcttggtg ttggagtgt 240
 tggcaatctt tggaatagct attggtctcc ttgttcattt tctggcagta gcaaacagga 300
 tctacttcta ccaaggtagc tttaaaatgc tggatatccc atataatagc aattatgaaa 360
 gggagacatc accagaaaat aactatctta gccaaattct tgagactaga tggttgatgc 420
 atttcaaagt tctagcattt acagacaata tatcttttct caagtcatca cactggtgta 480
 agtaaccaac attaaccatc aaaaaagaga tcaactgac atacatacca ggacatttca 540
 aatttctctg tgaaaagaat ctattgatat gttatagtcc ttagccaata agctatgaat 600
 atcaagcatt atcataaatg tcagactaat ttttcaatat gaaacctaag attggggcca 660

tatagttgag ttcactagat gtattgagga tacattaatc ctcaaattat aaatgtgtca 720
tccttttggt ttcctaaata tttatgttca gaaaacatta gatagtccca tagaccaatg 780
tttgatgctc taaaatTTTT atttagcagt agcataaata tagatcctgt tttctcctgt 840
cttttgactt gcaagtcagc taaacacttt gtggaaatac ccctagaatt cttagtagat 900
acaggttagg agacagcata tttacactag actttgagat caagaaaacc ttctagtcac 960
cataataaga agtaaaatag ctatgctgtg ttcctacat gtgggtttgg agtggcatga 1020
actagccgag gtaaccatag aatagattta gacaacctga gcctagcctt tgccatttaa 1080
tagccctaga gtctttggca agttactgta tcgctttgaa tctgttccac tatctcatta 1140
catgttagta gtaatacttg ctttgccctca ctcacagaac agtactaagg ataaaaaaga 1200
aaagaaaata tgtgtggaaa cactcacaaa taaacacatt tcagatgaag gcaattattg 1260
cttttatttc catcagtgtc gcaggactat gtctgtctct cttccctgct catgggactc 1320
ctggaattgt agaacagatt aagctctcaa ctagcattaa cattggaggt caattttggt 1380
attgaacata aatgtgagat taaagttgaa gggcccagat atctctcaga gatgactaca 1440
accacgggag atgtctctgt tttgttttcc catgcatgta aattcaagta tctataaaca 1500
gcatgggcca aaaggcagtc atgaagaggt cacaggacaa agcttttcac tttagcatac 1560
actgctataa taatcaaact tatgtgacct gagtgcttcc caggaattat tattgattta 1620
tgtgccaaaa tattgaacat ccctgaggaa gcctcaaagc ataataatgt tacttcagac 1680
acaagcttca ggactcctta acaattcctg cgtgtctaat tggctagctc ctcaggctga 1740
ctgccctttt cctgtttcca gacaaatctt ccctaaaact catggtcaga ttaattttcc 1800
tcaaatacag tttacctcaa caactttcca tcaccgctac ccctcagcta gcattaaaga 1860
tcctcttctg gttgagcca atctcctaga cactgccatt actgtatgac taggcacaga 1920
gtgacagtgt acagcataca gacagctctg taaagagccc aggttatgca gtcaactgca 1980
ctaaatctaa atcctagtgt agtgtgtact tactcttgaa tacattatat aacttcccag 2040
agcctcaatt tttccttgtc tataaaatga agataacacc tatgctgcag gattgttgtg 2100
gagactgtgc taataaatgt gatagcaaag tacattggct acgtaataca aagtacattg 2160
gaatatagca gatgcccaat ccatgcta ataatattatt gccatcaatt attctgaaga 2220
aatattcctt ctcactctg ctttatgcaa ttttctgctt gataatgaag cagaaacaaa 2280
aatacattaa gtttcattgt gtatgtcact tcctccatgc aaatttctct gatcttttat 2340
gtaaaaaatg acttgacctt cctgggaata tctccagata agataaataa attattgctt 2400

ccacctcatt tattttagta atttgtatat atgttttatc ttccctaaaa atctacaatt 2460
 tccttgagag tagaaattgt gtcttagtca cccttgcatc acctaatagc acctagctca 2520
 gttgcttgtc tatagcagtt gttcaacaaa tgattgatga atgtattaat aaatcatccc 2580
 aattcttagg tgataccttt accctatgcc tcaggcaact cttttttttt cttgagacag 2640
 acttttgttc atgttgccca ggctgggtgtg cagagggtgcg gtctcgacgc actgcaacct 2700
 ccacctccca ggtccaagca attctccttc ctcagcctcc caagtagctg ggattacatg 2760
 caccaccac catgcctggc taattttttg tatttttagt aaagatgggg tttcaccttg 2820
 ttggccaggc tgatctcaaa ctcccgaact caagtgatct gcccgcttg gcctcccaat 2880
 gtgttgggat tacaggcgtg agccaccact cccggcctcc ctttttttag atttgtgtaa 2940
 ctgcttgtcc tctatattga ataatacagc tgcatgcata ctgtcatcaa gcaaatataa 3000
 gaggatggat ggtcctgtgc ttaacctaag ggtactccac aaaccacaa aagagcagaa 3060
 gaaaccaagc tatgaaagat cagacaaaga ggaagaaaat gctgttttca gcaacatatg 3120
 aaaactttat gttgtttcca gtcctgataa caacagagtg acagcacata tatggctggt 3180
 attcaagggt ccaagattaa tg 3202

<210> 675

<211> 3481

<212> DNA

<213> Homo sapiens

<400> 675

atataaactc gagccctggc cgatccgcat gtcagaggct gcctcgcagg ggctgcgcgc 60
 agcggcaaga agtgtctggg ctgggacgga caggagaggc tgtcgccatc ggcgctcctgt 120
 gcccctctgc tccggcacgg ccctgtcgca gtgcccgcgc tttccccggc gcctgcacgc 180
 ggcgcgctg ggtaacatgc ttggggctct ggctccttggc gcgctggccc tggccggcct 240
 ggggttcccc gcaccggct gcggcgaccc caagcgctc gggcccctgc gcggtttcca 300
 gtgggttacg ggagacaaca acaccagcta tagcagggtg gcacggctcg acctaatgg 360
 ggctccccctc tgcggcccgt tgtgcgtcgc tgtctccgct gctgaggcca ctgtgccag 420

cgagccgatac tgggaggagc agcagtgcga agtgaaggcc gatggcttcc tctgcgagtt 480
ccacttccca gccacctgca ggccactggc tgtggagccc ggcgccgcgg ctgccgccgt 540
ctcgatcacc tacggcaccc cgttcgcggc ccgcggagcg gacttccagg cgctgccgggt 600
gggcagctcc gccgcggtgg ctcccctcgg cttacagcta atgtgcaccg cgccgcccgg 660
agcgggtccag gggcactggg ccagggaggc gccgggcgct tgggactgca gcgtggagaa 720
cggcggctgc gagcacgcgt gcaatgcgat ccctggggct ccccgctgcc agtgcccagc 780
cggcgccgcc ctgcaggcag acgggcgctc ctgcaccgca tccgcgacgc agtcctgcaa 840
cgacctctgc gagcacttct gcgttcccaa ccccgaccag ccgggctcct actcgtgcat 900
gtgcgagacc ggctaccggc tggcggccga ccaacaccgg tgcgaggacg tggatgactg 960
catactggag ccagtcctgt gtccgcagcg ctgtgtcaac acacagggtg gcttcgagtg 1020
ccactgctac cctaactacg acctgggtgga cggcgagtgt gtggagcccg tggaccctgt 1080
cttcagagcc aactgcgagt accagtgcc a gcccctgaac caaactagct acctctgcgt 1140
ctgcgccgag ggcttcgcgc ccattcccca cgagccgcac aggtgccaga tgttttgcaa 1200
ccagactgcc tgtccagccg actgcgaccc caacaccag gctagctgtg agtgccctga 1260
aggctacatc ctggacgacg gtttcatctg catggacatc gacgagtgcg aaaacggcgg 1320
cttctgctcc ggggtgtgcc acaacctccc cggctacctc gactgcatct gcgggcccga 1380
ctcggccctt gcccgcaca ttggcacga ctgtgactcc ggcaagggtg acggtggcga 1440
cagcggtctt ggcgagcccc cgcccagccc gacgcccggc tccacctga ctctccggc 1500
cgtggggctc gtgcattcgg gcttgctcat aggcatctcc atcgcgagcc tgtgcctggt 1560
ggtggcgctt ttggcgctcc tctgccacct gcgcaagaag cagggcgcgg ccagggccaa 1620
gatggagtac aagtgcgcgg ccccttccaa ggaggtagt ctgcagcacg tgcggaccga 1680
gcggacgccg cagagactct gagcggcctc cgtccaggag cctggctccg tccaggagcc 1740
tgtgcctcct cccccagc tttgctacca aagcacctta gctggcatta cagctggaga 1800
agacctccc cgccccccc aagctgtttt ctctattcc atggctaact ggcgaggggg 1860
tgattagagg gaggagaatg agcctcggcc tcttccgtga cgtcactgga ccaactggga 1920
atgatggcaa ttttgtaacg aagacacaga ctgcgatttg tcccaggctc tcaactaccg 1980
gcgcaggagg gtgagcgtaa ttggtcggca gccttctggg cagacctga cctcgtgggc 2040
tagggatgac taaaatattt atttttttta agtatttagg tttttgtttg tttcctttgt 2100
tcttacctgt atgtctccag tatccacttt gcacagctct ccggtctctc tctctctaca 2160

aactcccact tgtcatgtga caggtaaact atcttggtga attttttttt cctagccctc 2220
tcacatttat gaagcaagcc ccacttatcc cccattcttc ctagttttct cctcccagga 2280
actgggccaa ctcacctgag tcgccctacc tgtgcctgac cctacttctt ttgctcttag 2340
ctgtctgctc agacagaacc cctacatgaa acagaaacaa aaacactaaa aataaaaaatg 2400
gccatttgct ttttcaccag atttgctaata ttatcctgaa atttcagatt cccagagcaa 2460
aataatttta aacaaagggt gagatgtaaa aggtgttaaa ttgatgttgc tggactgtca 2520
tagaaattac acccaaagag gtatttatct ttacttttaa acagtgagcc tgaattttgt 2580
tgctgttttg atttgtagctg aaaaatggta attgttgcta atcctcttat gcaatttctc 2640
tttttgttat tattacttat ttttgacagt gttgaaaatg ttcagaagggt tgctctagat 2700
tgagagaaga gacaaacacc tcccaggaga cagttcaaga aagcttcaaa ctgcatgatt 2760
catgccaatt agcaattgac tgtcactgtt ccttgtcact ggtagaccaa aataaaacca 2820
gctctactgg tcttgtggaa ttgggagctt gggaatggat cctggaggat gcccaattag 2880
ggcctagcct taatcaggtc ctcagagaat ttctaccatt tcagagaggc cttttggaat 2940
gtggcccctg aacaagaatt ggaagctgcc ctgcccattg gagctgggta gaaatgcaga 3000
atcctaggct ccacccatc cagttcatga gaatctatat ttaacaagat ctgcagggggg 3060
tgtgtctgct cagtaatttg aggacaacca ttccagactg cttccaattt tctggaatac 3120
atgaaatata gatcagttat aagtagcagg ccaagtcagg cccttatttt caagaaactg 3180
aggaattttc tttgtgtagc tttgctcttt ggtagaaaag gctaggtaca cagctctaga 3240
cactgccaca cagggtctgc aagggtctttg gttcagctaa gctaggaatg aaatcctgct 3300
tcagtgtatg gaaataaatg tatcatagaa atgtaacttt tgtaagacaa aggttttctc 3360
cttctatttt gtaaactcaa aatatttgta catagttatt tatttattgg agataatcta 3420
gaacacaggc aaaatccttg cttatgacat cacttgtaca aaataaacia ataacaatgt 3480
g 3481

<210> 676

<211> 5763

<212> DNA

<213> Homo sapiens

<400> 676

gaaactttgc gccagtcgc cagggcgggc cgcgccttta ccgcccagct gcctcccgga 60
gccccgcgc cctcccgacg cgcagagcca tggcctccca cctgcgcccg ccgtccccgc 120
tcctcgtgcg ggtgtacaag tcaggcccc gagtacgaag gaagctggag agctacttcc 180
agagctctaa gtcctcgggc ggcggggagt gcacggtcag caccagga caggaagccc 240
cgggcacctt ccgggtggag ttcagtgaag gggcagctaa ggagagagtg ttgaaaaaag 300
gagagcacca aatacttggt gacgaaaaac ctgtgcccac tttcctggta cccactgaaa 360
attcaataaa gaagaacacg agacctcaaa tttcttact gacacaatca caagcagaaa 420
caccgtctgg tgatatgcat caacatgaag gacatattcc taatgctgtg gattcctgtc 480
tccaaaagat ctttcttact gtaacagctg acctgaactg taacctgttc tccaaagagc 540
agagggcata cataaccaca ctgtgcccta gtatcagaaa aatggaaggc cagcatggaa 600
ttgagaaggc gtgtggtgac ttccaagaca ttgaaagaat acatcaattt ttgagtgagc 660
agttcctgga aagtgcagc aaacaacaat tttccccttc aatgacagag aggaagccac 720
tcagtcagca ggagaggac agctgcattt ctccttctga accagaaacc aaggcagaac 780
aaaaaagcaa ctattttgaa gttcccttgc cttactttga atactttaaa tatactgtcc 840
ctgataaaat caactcaata gagaaaagat ttggtgtaaa cattgaaatc caggagagtt 900
ctccaaatat ggtctgttta gatttcacct caagtcgac aggtgacctg gaagcagctc 960
gtgagtcctt tgctagtga tttcagaaga acacagaacc tctgaagcaa gaatgtgtct 1020
ctttagcaga cagtaagcag gcaaataaat tcaaacagga attgaatcac cagtttaca 1080
agctccttat aaaggagaaa ggaggcgaat taactctcct tgggaccaa gatgacattt 1140
cagctgcaa acaaaaaatc tctgaagctt ttgtcaagat acctgtgaaa ctatttgctg 1200
ccaattacat gatgaatgta attgaggttg atagtgccca ctataaactt ttagaaactg 1260
aattactaca ggagatatca gagatcgaaa aaaggtatga catttgcagc aaggtttctg 1320
agaaaggcca gaaaacctgc attctgtttg aatccaagga caagcaggta gatctatctg 1380
tgcatgctta tgcaagtttc atcgatgcct ttcaacatgc ctcagtcag ttgatgagag 1440
aagttctttt actgaagtct ttgggcaagg agagaaagca cttacatcag accaagtttg 1500
ctgatgactt tagaaaaaga catccaaatg tacactttgt gctaaatcaa gactcaatga 1560
ctttgactgg tttgccaaat caccttgcaa aggcgaagca gtatgttcta aaaggaggag 1620

gaatgtcttc attggctgga aagaaattga aagagggtca tgaaacaccg atggacattg 1680
atagcgatga ttccaaagca gcttctccgc cactcaaggg ctctgtgagt tctgaggcct 1740
cagaactgga caagaaggaa aagggcattt gtgtcatctg tatggacacc attagtaaca 1800
aaaaagtgt accaaagtgc aagcatgaat tctgcgcccc ttgtatcaac aaagccatgt 1860
catataagcc aatctgtccc acatgccaga cttcctatgg tattcagaaa ggaaatcagc 1920
cagagggaag catggttttc actgtttcaa gagactcact tccaggttat gagtcctttg 1980
gcaccattgt gattacttat tctatgaaag caggcataca aacagaagaa cacccaaacc 2040
caggaaagag ataccctgga atacagcgaa ctgcatactt gcctgataat aaggaaggaa 2100
ggaaggtttt gaaactgctt tatagggcct ttgacaaaaa gctgattttt acagtggggt 2160
actctcgcgt attaggagtc tcagatgtca tcaacttgga tgatattcac caaaaacat 2220
cccggtttgg aggaccagaa atgtatggct atcctgatcc ttcttacctg aaacgtgtca 2280
aagaggagct gaaagccaaa ggaattgagt aagacaactg ctggaagatg tcttaaataca 2340
agctttcaaa aaaatatatt ttaggaggct gatttaatgc cagtctaaat ctttatgtag 2400
aaaggacttt gaaatttttc ttctcaagaa atggtttgta taagaataac aatctgctag 2460
tctgtcattt ctggagtgat actttttttt ttgagacgga gtctgctctg tcgctcgcgc 2520
tggagtgcag tggcatgata tcggctcact gcaagctccg cctcccagggt tcatgccatt 2580
ctcctacctc agcctcccga gtagctggga ctacaggcgc ccaccaccat gcccggttaa 2640
tttttgtttt tgtattttta gtagagacag ggtttcactg tgtagccag gatggtctcg 2700
atctcctgac ctctgatcc gccgcctcg gccttccaaa gtgttgggat tataggcgtg 2760
agccaccgcg ccagccctg gagtgatact ttttatggaa gacaaaagcc ccccaaatct 2820
gtgtaaaatc tgctgcaaag gtgtcatccc tcttgtgtca tcaactgggt tagagggtggg 2880
tccgaaataa tcttctgtgt ccttcagttg gactctcggc tgccaattga tctctttttc 2940
attgccatct ctggggtggt tctttggttt tttgtgtgtt ttccccttca tctctacctg 3000
tgaaagtga atctattgt aaatgggagg aaaaagggtt ggttgtgaaa aattaaagac 3060
ccacattctg ttttcttact catggtaaga aaagtggcca tgagtagaga ttgggcaagc 3120
attggtaata aatggaataa gactattatt attattattt gagatggagt ctactctgt 3180
caccaggct ggaatgcagt ggtgtgatct tggctcactg caacctccac ttcccgggtt 3240
caagcgattc tcctgcctca gcctcctgag tagctgggat tacagggtgtg tgcctccaca 3300
cccggcta at tttttgtatt tttagtagag acgggggttt gccatgttgg ccaggctggt 3360

ttcaaactcc tgagctcaaa tgatcctcct gccttggcct cccaaagtgc tggaattaca 3420
ggcatgagcc accacacca cacaagacta tcatttttaa tgaccaagag cctagtatat 3480
agttggtgcc tgtcttagtc tgtttgtgtt gctataaaag aacacctgag actgggtaat 3540
tgataaagaa aaaggtttgt ttggctcaca attttgctgg ctagaaggtt gggcatccgg 3600
tgaaagcctc aggctgcttc cattcatagc aaagggcagc cagtgtgtgc agaaatcaaa 3660
tgacagagag gaagtgagag agagagggtg cggggagggtg ccaggctctt tttaacaagc 3720
agttcttcag gaactaagag tgagtcactc ccatgagaac agcaccaagc cattcatggg 3780
ggaatctgcc cccatgaccc agaccctcc cgttaggctt cacctccaac actgaggatc 3840
aaatttcaac atgagatttg gaggagggtca aacaaactaa actgtagcag tgtttcataa 3900
aattgtttgc ctgactcagg ttgctagtaa gccagcagag ggatatttgc ctctaaatc 3960
tttggcagag gcaggagtaa ggaagccatt tctggagtcc ttgctactaa tttggaaaac 4020
tgagcttctt tctttcattg ctttttccct taagagacaa gtccttacta tattgccctg 4080
tctctcaagg gaagacatca agactggact tgaactcctg ggctcaagcc atccccaac 4140
cttggcctct cgagtagatg ggattatagg catgtgccac ggtgcctgac ttgagtttct 4200
tattctagaa cacttgagc ctgaactctg accaggcccc tcaactgagc ctttgctttc 4260
tgctccttgt aaactgccat attgggtgca cttgccctgc cacagtaatg ctatatattt 4320
ctgagcattg tttttctcta gataatttta tatttttgag tataccccac ttccaagtgt 4380
tttttgtttt gttttgcttt gttttgttg ttgtgtttt gagacagggt ctactgtgt 4440
ccccaggct ggagtgcagt ggcacaatga cgactcactg cagcctcaac ctctggggc 4500
caagtgatcc tcccacctca gcctctcaag tggctgggac cacagaagtg caccaccatg 4560
cctggctttt tttttttttt tttggtcgag atgggggtgc cctgtgttgc ccagactggt 4620
cttgaactcc tggactcaag ggatcctcct gtcttgggct cccaaagtgt tgggattaca 4680
ggcgtgagtg accatgccta gctcacttcc aggtttaaca gacaaaataa acttactcta 4740
gtttccatct ctatcatttt ataataaccg tagcccatat tgtagtagtt tttagctct 4800
ttactaagtc ccaccaattc atgttttcac ccttaaaatc tttctcactg atactctctc 4860
tggacagaaa aaagggtgaaa taagcctact ataaggaata tatgacatgc taaattttat 4920
ttttaaatgg ttcttcaagt cagattaaag taataatagc aaattatgtg attatccatg 4980
tcccagcctc tctccaaaaa aatagtaaac aagatgtctt cttcttttcc caaagataca 5040
catacacaca tgtacaaatt tttttatcag ataataatag ctaatattta atgagtactt 5100

accttagttt gtcccccttta caacagcttt acatctgtgt gattgataca gttcatattc 5160
 ccattttata actgagaaaa ctggtgcaca gagaggataa gcaacttgcc aaaggtcaca 5220
 cagttaataa gtggaaatgc tggggatatga accaggtagt ctgcccccat agctctgccc 5280
 cccagagctg tactgtctcc catgagggtta cttctccatg gagcagcctg aggcgatccc 5340
 tttattctgg gcttctctca gaaatggatt cccacacagt attcaaagca aatttcccca 5400
 gaggaaatcc tattggaaga acttaaaaac tcagaatctt tttctttgtc cagagagttg 5460
 aggaagctta agctaaatga tacatgtttt taaaaaaaaa tcagattata aatttagttt 5520
 ttggtgattc attaaattct ttactattat agttattttc tagctgttca tcttttagct 5580
 aaatttgttc caaagaagca aaagtttggg ttctactaag ttctggattc tggatgggag 5640
 attgcactgt gtgtgacatg caagtttcat ggtgtgggag attgcagagc atttgggtta 5700
 ctgcttttac tctttggaag ctgttatcat ctgtatctgc tttaaataaa gttaaagatt 5760
 tgg 5763

<210> 677

<211> 3580

<212> DNA

<213> Homo sapiens

<400> 677

attttgctgc cctcgttcca tccctattag gcgcattagc cagcccggcg gctctggtta 60
 cagacgtctg aatgacaaaag tgccctcatt accggcgcg gcccagcc gacccgccgg 120
 gacgcgtctt ggtttcagcc ctctctctct caccgcggcc caggaagaaa ctcggaccgc 180
 gcacagccat cccagaccga gcagccgcgc gccgaggcgg aggcgggagc cgcaggggct 240
 gcagacggca ggttcctgtc ggggtacacc ttcccaagcg cccaggtcct ccacgcccag 300
 ctccccctct tcttgggtc ttgcgcggg gaccctcgct cttgccaga cccggagccc 360
 aagtcgttgc ccctctggga tccggtccct cctccccgt ctctgtgtct acgtcgccc 420
 accgcgtct gagcagcgtc tctaaccagc ggcgttagtc agcagacgtg cccgcggtcg 480
 ctcccaaadc cccggacgca gccacaggct ctgacagctc cagggaactg gggctgagct 540

ttcgggctgg ggcccgacc cggacagaat ctctgcccac ctcacccgca ggctctaccg 600
ccgacggact ctggggacag tgtcaacccc ccccgccctg ctgggaaacg cagccgtgac 660
cccagactgg gacagcggct gccccctgaa aaggtagggg agtaccgagc tgggaatcag 720
gtcggggagt ctagccacga ctctggccca acttgctgtg agatcttggc caagtcgttt 780
aaactctcag agcctcagtc tccgtatctg taaagccgga atttggggcg cagtgtctctg 840
atgaaagatg ctggcgggga gagtgaagac gcctcctccg ttgccagacc ttccagggca 900
ttcggttcat ggccataaag caggccacat ctgacaatct cgtcggacca cccggaggac 960
ccgccgacct ttgccgagtc ggtggcccgg gataccgcgc tacagaatcc gaggcgtccg 1020
ggcgcccccg tctcgttagg tgcccagcgg cttgcaccga gagccaggag aggctcagac 1080
cggatcccga cccttcgagg cgcgggagcc cacggagcgc ggtgggcgcg gcgctcgggt 1140
cgcgagcta ggtggggagc ggcgcgcagc cccagactcg caggcaggca gcggcggact 1200
gcaattgcct cgccccgcag cgccccctgc ctgccgcctc ccgcctgcgt agccagagct 1260
gcgcgcggcc aggaagggtc cccgcctagt gcgccccggc gctctgcacc ccgagacgta 1320
gccaccgcca gcccgggtag gggcacaccc gctccgtccc tcgcatccg ctgcgtgtgt 1380
tcaagccgtg agaacacgcg cgtcggagga gcccgccggc cgtgggggaa ccccgggagc 1440
gggttcgccc cggcgaagtg ggcactcccc tcccagcctt agatccgcag cccaatttc 1500
gggactggga gaggccgcga gcaggagcgc ggggacaggc gctggaaatg tccaagcctc 1560
tgctctctct tctcgtctca ctgtccctca gcgggcaggc gggaccccga ccacttcagg 1620
gtccgcgccc cgctctgtct cctttccttc tgcttccatc tctctgccgc cctcgccgtc 1680
gccccctctc tgccctccct aaccacttc tcaacctctc tcccgtccc caacctctcc 1740
ctccgacgcc cctccccccc attgtctggc cgggtcccat tgtccttgcc gggteccctc 1800
tgctccagt cctccgacc tcttcattg ttccatcccg tcgtcccggg ctccccgccc 1860
cagcccagct cgccccctc atctctagtc cccgtccagt tccccctct tctctgcct 1920
tggttctgtc ccacgactct ccagagaccg agatgctgag gggaaagtcc cttcgggatc 1980
ccggcattcg agtgctctct tccgaagaac ctgggcatcg gagagcccca tgccccctct 2040
tgaaagaccc ctcccagctc cccaccgcc ctctgcggtc cctgaggacc ggcattccgtg 2100
ctccggtctt gccctcatct ccaccctgga gagtgcctc tgcgtccgg gaaccctaga 2160
ccctccttcg tgggtcccggc atcagaggtc ctttcccacc accaccctc agtatctggg 2220
acccaatgc tctgttctgt ttccttggtg gcggcgcccc gctcttctcg gatttctgat 2280

cccgggaaag ggagcgggcc ccctccggct aacactcacc ccagaagca gcaacagcag 2340
caggcgcggc ccgtccatgg cgcggccgggt ggcacctgcc cccatcgccc gcctcccgcg 2400
gcagcgcctcg acttcagct cggtcgcctt tgcggactga tggggctgcg ctgcgctgcg 2460
ctccagcgcc cccctgccc gccggagctg gccgcggctc ggctcgctct ggctgcgggc 2520
gggagaggct ggggtgaagcc agtgctgcgg ccccgccctc gcccgccca gcccgccac 2580
ccccggaacc gcgcccgcgc gctctgccgc ctccgggtgg gaagcagagg caaagggagg 2640
gcgtgcggtt ccccgacccc cgctgcgctt ctccctgcct tgtcccttag agcctctcac 2700
ccatcccgcg ctggtacca gttcccgcc cgcgctactg cgcgtccgtc ccgatgctg 2760
tgggcccggg gaccagggcg tccccactgc ggttcctgtt cctctccggc tgcggcccg 2820
cacagggttc actctcttac ccattctcct ccgcctctgg cttcaccttc tccctggagc 2880
cttgctccct aactgcccc tatcagtaag aatgcccgtt tgccctccct gcccttcac 2940
tcagtccatc accccacctc caccatcc ccaccctcc ccttcccagt gcaggagatc 3000
cctgggcaga ggcctagggg gaggggaggg gcgcaggcgc ccttacctcg gccatcgaca 3060
ttcaaggtgg agtccattcc gacatcattt gattctcaaa tgagggggtt gaagggtca 3120
cagggtgtga cacagtgcac aggaatacac actctcaagc tcaattgtat gtgtgatcgt 3180
gcattacgt gtgccacac cgttctcatg cactcctgcc gacctgactg tccacacat 3240
gcacctctcc aggcattgcac acgggcacat atgtgatccg gacattcaaa cgtgcatatg 3300
tacacattca cacatgcatg tatacagtcg tgtctgcata agccctcaca tgtatacagt 3360
cacacaaaca cacacattca tgagtgcaca cacacactga caccatcaa caaacaaca 3420
gatgcatctt caacaatata gacttcacca gactgtgagt gtctccatgg gcttatgagc 3480
tctgcaggca gggattatgg tttcttctct gaattcctgg tatacagtag ggttcaagaa 3540
agttttgtag aagggaataa atagaaaagt ggtgaaatgg 3580

<210> 678

<211> 4580

<212> DNA

<213> Homo sapiens

<400> 678

caggggccccg	aggacaatgg	ggtcggcgac	ggcgaggaag	ccagcggggc	ggatggggtc	60
cccatcgagg	ccgagccgct	gccctccctg	gagtactggc	cccagaagtc	ggaccgctcc	120
atcccgagc	tggacctggg	ctggcccgc	accatcgctt	accgcggcgt	gacccgggct	180
agcgtctaca	tgcagcccc	catagacggg	caggcccaca	tcaaagaggt	ggtgcggaag	240
atgatcagcc	aggcacagaa	ggtgatagct	gtggatcatg	acatgttcac	cgacgtggac	300
atcttcaagg	acctgctgga	cgccggcttc	aagaggaaag	tggccgtgta	catcatcgtg	360
gatgagagta	acgtcaagta	cttctgcac	atgtgtgagc	gggcctgcat	gcacctgggg	420
cacctcaaga	atctcagagt	gcggagcagc	gggggaactg	agttcttcac	gcggtcggca	480
accaagtcca	agggtgccct	ggcccagaag	ttcatgtttg	tggatggaga	ccgggctgtg	540
tgcggctcct	acaggtgact	ctccagcttt	cagggaagtt	gtgcgagagg	tacctctggc	600
tcccaactgg	cttctgccct	taatcctaac	cctggttatt	ccggttcatt	ggtcccaagg	660
ctgctgaggt	gtgcgcaggg	ctggagcaca	tctgcccgc	tgtctgtctc	tggaggcagg	720
cagagaaggg	ctttgtctga	ggacgctggt	gttccagctt	ggagatgtca	ccggcctgga	780
agtgggggtgt	ggccaggccg	tgccttcgca	agcctatggg	ggtcactctg	agagccgtcc	840
ttagggatgg	ggccagctct	gtgggcacca	ccacatgggg	catgggggtg	gcgctgcccc	900
tggttacatg	gggggttggtg	gcagcataga	cgcatggcag	cagcggccac	cacatgcaga	960
acccccaca	gtgtccaggg	ccttcttgag	ctgcttagtg	aatcctgtac	cagcctgaga	1020
ggagcacagt	gccctgtcat	ttgcagaggt	gggaatgggc	ttggtgcaac	caacttgctt	1080
gacatccgac	tcagtctgac	cccacagtat	gcacctgctc	tctgccccca	ttcacttctt	1140
gatcccaggg	ccctgtggcc	acagtctgag	gcccagcggc	tatgggtgca	cgggggctgg	1200
gcggaggaag	cagggtcatg	tgcctgacca	gcgccccctc	cctctgttgc	agcttcacgt	1260
ggtcggccgc	gcggacggac	cggaatgtga	tctctgtgct	gtctggccag	gtggtggaga	1320
tgtttgaccg	gcagttccag	gagctgtacc	tcatgtcaca	cagtgtgagc	ctcaagggca	1380
tccctatgga	gaaggaaccg	gagccggagc	ctattgtgct	gccctctgtg	gtccccctgg	1440
tgcccgcggg	cactgtggcc	aagaagctcg	tcaaccccaa	gtacgcactt	gtcaaggcca	1500
agagcgtcga	cgagattgcc	aagatctcct	ctgagaagca	ggaggccaag	aagcccctgg	1560
ggctgaaagg	cccagcgtg	gctgagcatc	cagggggaact	ccccgagctg	ctgccaccca	1620
tccaccaggg	actgcttcac	ctggagaggg	ccaacatgtt	tgagtacctg	cccacgtggg	1680

tggagccaga cccggagcct ggcagcgaca tcctgggcta catcaatata atcgacccca 1740
acatctggaa cccccagccc agccagatga accgcatcaa gatccgtgac acctcccagg 1800
ccagcgccca gcaccagctg tggaagcaga gccaggacag caggccccgt ccagagcctt 1860
gccctcccc agagcccagt gccccccagg acggtgtccc agctgagaac ggcctcccc 1920
aggggggaccc tgagccattg cccccgtgc ccaagccccg gacagtcctt gtggcagatg 1980
tactagcccc ggacagcagt gatattggct gggctcctgga gctccccaaa gaggaagctc 2040
cccagaatgg gacagaccat aggctacca ggatggcagg cccaggccac gcccactcc 2100
agcggcagct atctgtgacc caggatgacc ccgagagcct cgggggtgggg ctccccaatg 2160
ggctggatgg ggtggaagaa gaagatgatg acgactacgt aacctcagt gaccaggaca 2220
gccactcagg cagctccggc cgtggccctg gccccgacg gccctcagt gcttctcttg 2280
tgtcagagga gtacttcgag gtgagagagc actcagtcct tctccggagg cgccactcag 2340
agcaagtggc caacgggcca accccaccac cgcgccggca gctgagtgcc cccatataa 2400
cccgaggggac ctttgttggg ccccagggtg gctccccatg ggcccagagt cggggaagag 2460
aagaagcaga tgcgttgaag aggatgcagg cccagcgctc cacagacaag gaggcacagg 2520
tgggtcaggg tccctgcaca ccaggggtca cgagtcctc cctgccagcc acccaagagc 2580
tcgagctgtt gtcttctggg ctaccatgtc cctgactctg atgacttcaa ttcccttggt 2640
acagatgggg aaacttgatg aacaggcagg ggtgggaacc ggccagggcc atatggaagg 2700
ccatcattaa tgctggggac tcttgggtccc agcatcctga aaaggcaacc taagaaaatg 2760
cacgtttccc cacctagagg tctccaaagc ctgtggttag aggatcttga tggcacctgc 2820
cagatgggtg gcacagtccc tagtttgcag atgaggaaaa ggcggggcac agggacgttc 2880
atttacagcc ttgaggtcac acagcagtaa gtgatactg tccagacctt gtgccaagcc 2940
acatccatgt taatcccttt gattgtggcc ctgaggacca ctctccccac tccccaggtt 3000
ggggaacagt tcacatctat cctttgcctc ttcttctggt gacgtttgca ggacaaggtc 3060
ccagaaccct ggggtgcctg cagcctgggt tcagtgcccg gagcccgtcc tacctgggaa 3120
caatgcgcgg ctgatcatgc ccggcatgat gatcaggccc atggggagca tcttgaggta 3180
gctggccagg atggagcccg ccttggcatg gttcaggctc cgggctgaca gtgatcgctg 3240
cacgatgacc tgggggtgga gtgcgagacg gggtagtcc aagcctgagg gacacttgtg 3300
tcaggattgg tccttgggtg gcctcaggga atgggcatga ggcacgatga tgtccatta 3360
gcctctgacc tgcccaaaac agccacactc aaagcccaa tactgtcagg gtcccaccag 3420

gagagctcac ttcagcaggc caagcagcga gagccgaggt acactcattc ccagggactc 3480
 agtccccctga cctgtcaata ggggaggtgt ggatcctgcc cagcccacca cccctggcaa 3540
 ttgtcagggc tggaggagac cctgggtggg gtggtatggg gacatacacc cctaccctca 3600
 cctcctggac cctcatgaca gcagctggca catttatagt gccaggagca gacactggcg 3660
 ccaactgtgt ttgcatggct ggcagagttc aggtgcttta agacctgggg ttttgaaagc 3720
 ttgcagttca gtagcagagg gaggctagaa gctatctgag gacaccggcc cttctgggag 3780
 ccttcagcaa atcctaacca ggcctttcca gatttgcaga atgggaggag ggagcggtaa 3840
 tttggaccca taatgtctga gatctctccc agcactgaca ttacgattct acttcaaaag 3900
 agttactttt tttttgagtc ggagtccttg tctgtcgccc aggctggagt gcagtgggtgc 3960
 ggtctcggct cactgcaagc tccgcctccg gggtcacgcc attctcctgc ctcagcctcc 4020
 caagtagctg ggacaacagg cgcctgccac cacgcccggc taattttttg tattttttaa 4080
 atagagacga ggtttcacct tggtggccag gatggtcttg atctcctgac ctcgtgatcg 4140
 cccgcctcga cctcccaaag tgctgggatt acaagcgtga gccaccgtgc ccagcccaaa 4200
 agagttactt tttaaacagc tttattgaga tattcacaga ccatataatt cacccaaagt 4260
 gtacactgtt cccatggttt ttagtacgtt cacaaagttg tacgacctat gactctgaaa 4320
 cgtaactagt tttcctttgc ggttccacag ttttaagtcac cagctgcaac tcaggagcag 4380
 gaagcctcta tgattttttt ttctttgaga tggagtttca ctcttggtgc ccaggctgga 4440
 gtgcaatggc gcaatctcgg gtcaccgcaa cctctgcctt ccaggagaat tgctcaaacc 4500
 caggaggcgg aggttgagc gagctgagat cacaccactg cactccagcc tgggtgacag 4560
 aacaagacta tgtctctggg 4580

<210> 679

<211> 3708

<212> DNA

<213> Homo sapiens

<400> 679

ggcctttttt tttttttttt ttcaaaggct ttatttcagt ttctgaggtt aggatgcccc 60

tgtgccccctc gctccacacc tgggcaggtc taaacttcct tccaggatgg cctccacaca 120
cagcctccca cctgggggtca cctggcttcc tggggggaccc gcaaaggagg ggcagggagc 180
agcagtccgg gtgcggggat cgggggacct cggcgggggc atccacaggg gctgcaagac 240
ctctggtcag catggcgtgg gtggggagag cgtttctccc tggggtcctg agccagtgc 300
tcctgttagg acctttgtcc cacctccgcc tgggtggaccg gcagggacct ggtctagcca 360
gtcctgcagc ctccattccc ccacctgccc ctccccgctc tgtggtgtgg ctgcccagga 420
gagaaggggc ccagggaagg gaggtctccg gcagggggtgg ggagtgcag gccagggcag 480
cagggtgag ccggagctgc tcacagctgc caggcactgg tcatcatggc cacgaactcc 540
tcatccgtgt tcatggaggc actcacgccg ctgtagtagt cctggaattc cgccagtgtg 600
acctgcccgt ctttctcaga ggagtccaag ttgtccagga agcggcgcag cacctcgccc 660
tcggtccact cccactgcg caccttgggg tgggcacggc cactgtacac cccgcggagg 720
tcgtccaccg tcacgacgcc gtccccactg cgggtccagct tggcaaatgc agctgcgatg 780
acagcctccc gggcctggga catggggggc cgcagcgccc gaaggaaactc ctccagatcc 840
agcgtcccgc tgccattgcg gtccccactc ctgcacacac cctctgcctc cgcttggtcc 900
agcaccagcc cgagtttggc cagaccctgc cggaactcat cagcgtccag ggatctgctc 960
ccgtcccggc ctagttggcg gaaaaacctg gccaggccct ggatgcccga ggccccgcgg 1020
gacaggcact gtgcccggag tttctccatg gtggcatcca cggcgtccat gcttggtctg 1080
ggctctgggc agctggcctg cgtctgtccc agagtcctgc ctgcggggcc ttgtgttagc 1140
tgtgttgtgc ctggggagac tgttgctagt ggaagggtgcc tctggagatg ggggtggggcc 1200
cagctgcatg aatgcactgt gctgggcagt ggggagtggt ggagggatgg gtgcgcccag 1260
cctgactgct tactcaactg ccagccccac agggcctggg acagagccag atccctgtgg 1320
cactgcatcc cttcctggct ccaaggagga ggggcaggcc actgccctgc aggggctgaa 1380
atgccctgga tggagacaag tccgtggctg gggaggcctg acgcatgatt cctgtgtgac 1440
cctggacagg tccctttccc tctctggctt cacaggggct tctcagcccg agccagggct 1500
gacaaaattg ctgaggaatc aaagttcaaa agggccccag gttctgaccg gccactgcgg 1560
ctcatgcctg aaatcccagc actttgggag gtctaggtgg gaggatcact tgagcccagg 1620
agtttgacc agcctgggga acatatagag aacttgtttc tattgtacag caacaaaaat 1680
gccccaggtg ggctgggcgc ggtggctcat gcctgtaatc ccagcacttt gggaggccga 1740
ggtgggcaga tcacaaggtg aggagtttga gaccagcctg accaacaatg tgaaaccccc 1800

cctctactaa aaatacaaaa attagccgtg catgatgggtg ggcgccctgta atcccagcta 1860
cttaggaagc tgaggcagga gaatcgcttg aaccagaggag gtggagcttg cagttagcca 1920
agattgcacc actgcactcc agtctgggag acagagcaag actccatctc aaaaagaaaa 1980
aaaaaaaaaa agccccaggt ggccccaggtc ctggggccct aagacctccc acccaggccc 2040
acctccaagg gcaggtcctg caaccacag agactgagct gagcctgagg gacacctctg 2100
ctcactgcca caaagcttgt cactggccgt tgttaggagc cagtcccagg atttctgtct 2160
ttacggatct tttgttgttg gttttcaggc ctgaaacgtg acttagtggg ctggctcctg 2220
acaagtggt gagccagagg ttgtgacccc gagtgaaga gcagccctga tcttgacat 2280
aaacctcaag agacgaagcc acctactga aggccttcaa cggagacatc ggatatact 2340
gcccgcctaa ataggtgggt tttccaggac ttgaaacgtg ggccctgttt gaggaccac 2400
tgttcgcccc gaccaagga tcatcaatcg gagccttctc caagcctggc tttacctgc 2460
tcacagcaca attatattgt cagaagttgc cttgcctgag cgcggtggct catgcctgca 2520
atcccaacac tttgggaagc cagggcagga agatcacttg agcccaggag ctcgagacc 2580
gcctgtgcaa catagtga ccccccatc tctacaaaaa ctacaaaaa ttagccaggc 2640
atggtgggtg gttcctgcaa tcccacctac ttggaaggct gaggcaggag gatcacttga 2700
gcccgggagt tggaggctgc agtgagctat gatcgacca ctgcactcca gcctgggtta 2760
cagagcaaga cggccgctc ttaaaaataa gtaaataaac tggccgggca cgggtggcca 2820
cgctgtaat ccagcactt tgggaggccg aggcgggcag atcatgaggt cagcagttcg 2880
agaccagcct ggccaacatg gtgaaacccc gtctctacta taaatacaa aattagtcag 2940
ccgggtgcgg tggctcacgc ctgtaatcac agcaccctgg gaggccgagg cagacagatc 3000
acctgaggtc aggagttcga gaccagcccg gccaacatgg tgaaaccccg tctccactca 3060
aaacacgaaa aaccagctgg gcgtgggtgt atgtgcctgc aatcccagcc actcgggagg 3120
ctgaggcagg agaattgcac gaacccggga agcggaggct gcagttagcc gagatcgcg 3180
cactgcactc cagactgggg gacaagagca agactttgtc tcaaaaaaa aagaaaatta 3240
gccaggtatg gtggcgggtg cctgtaatcc cacctactcc agaggctgag gcaggagaat 3300
cacttgaacc caggaggcag aggttgcagt gaaccaagac catgccactg caccacagcc 3360
tgggcgacag agtgagactc tgtctcaaaa ataaataaat aacttaaaaa aagaggccag 3420
ggctgggcgc ggtggctcac acctgtaatc ccagcacttt gggaggccga ggtgggcgga 3480
tcacttgagg tcaggagttc aagaccagcc tggccaacat tttgaaacc catctctact 3540

aaaaaaaata aatagctggg catggtggtg catgcctgta atcccagcta ctcaggaggc 3600
caaggcagga gaatcacttg aaccctggag gcagaggctg cagttagccc agatcacacc 3660
actgcacttc agcctgggtg gcagggtggc agagccagac tccgtctc 3708

<210> 680

<211> 3990

<212> DNA

<213> Homo sapiens

<400> 680

ctggaattag tatataaagc tacgcggagc gatctctgcc cctgaccctg gaaaaatctg 60
tctcaccac aaagatgtgg gctcagctcc ttctaggaat gttggccta tcaccagcca 120
ttgcagaaga acttccaaac tacctggtga cattaccagc ccggctaaat ttccctccg 180
ttcagaaggt ttgtttggac ctgagccctg ggtacagtga tgtaaattc acggttactc 240
tgagaccaa ggacaagacc cagaagttgc tagaatactc tggactgaag aagaggcact 300
tacattgtat ctcttttctt gtaccacctc ctgctgggtg cacagaagaa gtggccacaa 360
tccgggtgtc gggagttgga aataacatca gctttgagga gaagaaaag gttctaattc 420
agaggcaggg gaacggcacc tttgtacaga ctgacaaacc tctctacacc tcagggcagc 480
aagtgtatctt ccgcattgtc accatggata gcaacttcgt tccagtgaat gacaagtact 540
ccatggtgga actacaggat ccaaatagca acaggattgc acagtggctg gaagtgttac 600
ctgagcaagg cattgtagac ctgtccttcc aactggcacc agaggcaatg ctgggcacct 660
acactgtggc agtggctgag ggcaagacct ttggtacttt cagtgtggag gaatatgtgc 720
tgccgaagtt taaggtgga gttggtggaac ccaaggagtt atcaacggtg caggaatctt 780
tcttagtaaa aatttgttgt aggtacacct atggaaagcc catgctaggg gcagtgcagg 840
tatctgtgtg tcagaaggca aatacttact ggtatcgaga ggtggaacgg gaacagcttc 900
ctgacaaatg caggaacctc tctggacaga ctgacaaaac aggatgtttc tcagcacctg 960
tgacatggc cacctttgac ctcatgtgat atgcgtacag ccatcaaatc aatgttgtgg 1020
ctactgttgt ggaggaaggg acaggtgtgg aggccaatgc cactcagaat atctacattt 1080

ctccacaaat gggatcaatg acctttgaag acaccagcaa tttttaccat ccaaatttcc 1140
ccttcagtgg gaagataaga gttaggggcc atgatgactc cttcctcaag aaccatctag 1200
tgtttctggt gatttatggc acaaatggaa ctttcaacca gaccctgggt actgataaca 1260
atggcctagc tccctttacc ttggagacat ccggttggaa tgggacagac gtttctctgg 1320
agggaagtt tcaaattggaa gacttagtat ataatccgga acaagtcca cgttactacc 1380
aaaatgccta cctgcacctg cgacccttct acagcacaac ccgcagcttc cttggcatcc 1440
accggctaaa cggccccttg aaatgtggcc agccccagga agtgctggcg gattattaca 1500
tcgaccggc cgatgcaagc cctgaccaag agatcagctt ctctactat ttaataggga 1560
aaggaagttt ggtgatggag gggcagaaac acctgaactc taagaagaaa ggactgaaag 1620
cctccttctc tctctactg accttcaact cgagactggc ccctgatcct tccctggtga 1680
tctatgcat ttttccaggt ggaggtgttg tagctgacaa aattcagttc tcagtcgaga 1740
tgtgctttga caatcaggtt tcccttggct tctccccctc ccagcagctt ccaggagcag 1800
aagtggagct gcagctgcag gcagctcccc gatccctgtg tgcgctccgg gcggtggatg 1860
agagtgtctt actgcttagg ccagacagag agctgagcaa ccgctctgtc tatgggatgt 1920
ttccattctg gtatggtcac taccctatc aagtggctga gtatgatcag tgtccagtgt 1980
ctggcccatg ggactttcct cagccccctc ttgacccaat gcccgaaggg cattcgagcc 2040
agcgttccat tatctggagg cctctgttct ctgaaggcac ggaccttttc agctttttcc 2100
gggacgtggg cctgaaaata ctgtccaatg ccaaaatcaa gaagccagta gattgcagtc 2160
acagatctcc agaatacagc actgctatgg gtgcaggcgg tggatcatcca gaggcttttg 2220
agtcataac tcctttacat caagcagagg attctcaggt ccgccagtac ctcccagaga 2280
cctggctctg ggatctgttt cctatttggt actcggggaa ggaggcggtc cacgtcacag 2340
ttcctgacgc catcaccgag tggaaggcga tgagtttctg cacttcccag tcaagaggct 2400
tcgggctttc acccactgtt ggactaactg ctttcaagcc attctttgtt gacctgactc 2460
tcccttactc agtagtccgt ggggaatcct ttcgtcttac tgccaccatc ttcaattacc 2520
taaaggattg catcagggtt cagactgacc tggctaaatc gcatgagtac cagctgcatt 2580
gctggagatg ggaaaggatg tagatgacct aatggtgagt cagggtctat ggtgtctcaa 2640
gaattcggcc acctccacga ccaacctcta cacacaggcc ctggttgctt acattttctc 2700
cctggctggg gaaatggaca tcagaaacat tctccttaaa cagttagatc aacaggctat 2760
catctcagga gaatccattt actggagcca gaaacctact ccatcatcga acgccagccc 2820

ttggtctgag cctgcggctg tagatgtgga actcacagca tatgcattgt tggcccagct 2880
taccaagccc agcctgactc aaaaggagat agcgaaggcc actagcatag tggcttgatt 2940
ggccaagcaa cgcaatgcat atgggggctt ctctttact caggatactg tagttgctct 3000
ccaagctctt gccaaatatg ccactaccgc ctacgtgcca tctgaggaga tcaacctggt 3060
tgtaaaatcc actgagaatt tccagcgcac attcaacata cagtcagtta acagattggt 3120
atttcagcag gataccctgc ccaatgtccc tggaatgtac acgttggagg cctcaggcca 3180
gggctgtgtc tatgtgcaga cgggtgttgag atacaatatt ctccctccca caaatatgaa 3240
gacctttagt cttagtgtgg aaataggaaa agctagatgt gagcaaccga cttcacctcg 3300
atccttgact ctactattc acaccagtta tgtggggagc cgtagctctt ccaatatggc 3360
tattgtggaa gtgaagatgc tatctgggtt cagtcccatg gagggcacca atcagttact 3420
tctccagcaa cccctgggtga agaaggttga atttggaact gacacactta acatttactt 3480
ggatgagctc attaagaaca ctcagactta caccttcacc atcagccaaa gtgtgctggt 3540
caccaacttg aaaccagcaa ccatcaaggt ctatgactac tacctaccag atgaacaggc 3600
aacaattcag tattctgac cctgtgaatg aggatctggc tctgttgccc aggctgcagt 3660
gcagtggcgt gatctcagct cactgcagcc tctgcctccc aagttcaagc gattcttgtg 3720
cctcagcctc ctgagtagct gggatgacag gcacgtgcca tcacgcccag ctaatttttt 3780
ttgtattttt aatggagatg gggtttcgcc atgttgggtca ggctgggtctc aaactcctgg 3840
cctcaggtga tccgcctact tcagcctccc aaagtgtctgg gattacaggt gtaagccact 3900
gtgcccggcc tgtcctaaac tcttgaaaat agtttacaga agaaaaagct aatgcttggt 3960
attaaaacaa tacttttttc tatcagattg 3990

<210> 681

<211> 728

<212> DNA

<213> Homo sapiens

<400> 681

aggacttgac atgctgcccc actgcctgtc ggccgagggc gagctgcgct gccgccggct 60

gctggcaggg gccacggccc ggctccgcgc gcggcccgcg tcggccgcgg tgctcgtgcc 120
 gctctgtctca gtgcgtgggg tcccggcgct gctgtacacg ctgcggtcca gccgcctgac 180
 cgggaggcac aagggcgacg tcagtttccc aggcggaag tgcgaccgg ctgaccaaga 240
 tgtggtgcac acggccctgc gggaaacccg ggaggagctg ggcctggcag tgcccagga 300
 gcacgtgtgg ggcctgctgc ggcctgtgta tgatccgcaa aaggccaccg tggtgccagt 360
 gcttgctggt gtagggccac tggatcccca gagcctcagg cccaactcgg aggaggtaga 420
 tgagggtgttt gactgcccgc tggcccacct gctgcagacg cagaatcagg gctataccca 480
 cttctgccgg ggtggccact tccgtacac actaccgctc ttcctgcatg gaccacaccg 540
 ggtctggggc ctcacagctg tcatcactga gtttgcctg cagctgctgg cacctggtac 600
 ctaccagccc cgcctggccg gcctgacctg ctcaggggct gagggctctgg cccgccctaa 660
 gcagcccctg gcttcaccct gtcaggccag ctccactcca ggactgaata aaggtctttg 720
 acagctct 728

<210> 682

<211> 2981

<212> DNA

<213> Homo sapiens

<400> 682

aaaaaagcgc ctgggaagag caatcacaag ttgtgacgat tccaagttca cagaagccca 60
 agggatattg acatttctcc aaggagttag ccagaagaga tcctcaccgg ttgagttcag 120
 atggaagaga acagtaagaa ggaccatcgg gctttgctca accagggaga ggaggatgaa 180
 ctggaggtgt ttggttaccg ggaccacaat gtacggaaag ctttctgcct tgctgcatcc 240
 gtgctgacct gtgggggcct tctgctggtg ttctactgga gacccagtg gagagtgtgg 300
 gccaaactga tcccatgccc cttgcaagaa gcagacactg ttttgctgag gacaacagac 360
 gaatttcaa gatatatgag gaagaaggta ttctgcctct attatacac actgaagttt 420
 cctgtaagca agaagtggga agaatccctg gtggctgacc gccactctgt cataaaccaa 480
 gccttaataa agccagaatt aaaactgcgg tgcattggaag tgcagaaaat caggtatgtt 540

tggaacgacc tggagaagcg gtttcagaaa gttgggttgc tagaagacag caattcctgc 600
tctgacatcc atcagacatt tggattgggt ctgaccagtg aagagcaaga ggtcagaaga 660
ttagtgtgtg ggcccaacgc cattgaggtt gaaatccaac ccatatggaa gctgcttggt 720
aaacaggttt taaatccatt ctatgtgttc caagccttca ccctaacttt gtggctgtct 780
caaggttaca tagaatactc tgtggccatc atcattttga ctgttatctc cattgtctta 840
agtgtgtatg atttgcgaca gcaatcagtt aagctgcata acctcgtgga ggaccacaac 900
aaagtccagg ttacaatcat tgtaaaagac aaaggtttgg aggagctgga atcccgtctc 960
ttggttcccc gagacattct tattcttcca ggaaaatttt cattgccatg tgatgctggt 1020
ttgattgatg gaagctgcgt ggtgaatgaa ggcatgctta caggagaaag tatacctgtt 1080
acaaagacac cattgcccca gatggagAAC actatgcctt ggaaatgtca cagtttggag 1140
gattatagga aacacgtcct tttctgtgga acagaagtta tccaggtcga gccctctggg 1200
caggggcctg tacgagcagt cgttttgcaa acaggttaca atacagccaa aggggactta 1260
gtgagatcca tcctgtacc cggcctctg aacttcaaac tatacagcga tgccttcaag 1320
ttcatcgtgt tcctggcctg ccttggtgtc atgggttttt tctatgccct aggggtatat 1380
atgtaccatg gagttcctcc aaaagatacc gtgaccatgg ccctgatcct cctcaccgtg 1440
actgtccctc cagtgtgcc agctgccctg accataggca acgtgtatgc tcagaagaga 1500
ctgaagaaaa agaaaatctt ctgtatctcc ccacagagaa tcaacatgtg tgggcaaata 1560
aacctcgtgt gctttgacaa aactggcact ctcactgaag atgggctgga cctctggggg 1620
actgtcccta ctgtgacaa ctgcttccag gaagcccaca gctttgcctc gggccaggct 1680
gtgccatgga gccactgtg tgcggccatg gccagctgcc actctctgat ccttctcaat 1740
gggaccatcc agggagacc tctggacctc aaaatgtttg agggcactgc ctggaaaatg 1800
gaagattgca ttgtagactc ctgcaaattt gggacgtcag tttcaaaca cataaaacca 1860
ggacaaaaag ccagtaagag tccagtggaa gccatcatca ccttgtgcca gtttccattt 1920
tcctcgagcc tgcagaggat gtccgtgatc gctcagctag ctggggagaa tcatttccat 1980
gtctacatga aaggtgcccc agaaatggtg gccaggttct gcagatctga aacagtgcc 2040
aagaatttcc cacaggaact gaggagtta acggtgcaag gcttccgtgt cattgtctct 2100
gcccacaaaa ccttaaagat ggggaatctt tcagaagtgg agcacttagc cagagaaaaa 2160
gtggagtcag agttaacatt tctgggactt ctctatgtga agcagcagcc ttggtattgt 2220
gaggtctacc aatacagtga gtgttttctg gccaaccaaa gcccataaaa ataaaaaatt 2280

ataacaaacc ctgagaacca aaatgaacga aaatctgttc gcttcgttca ttgccccac 2340
 aatcctaggc ctacccgccg cagtactgat cattctatit cccctctat tgatccccac 2400
 ctccaaatat ctcatcaaca accgactaat caccacccaa caatgactaa tcaaactaac 2460
 ctcaaaacaa atgatagcca tacacaacac taaaggacga acctgatctc ttatactagt 2520
 atccttaatc atttttattg ccacaactaa cctcctcgga ctctgcctc actcatttac 2580
 accaaccacc caactatcta taaacctagc catggccatc cccttatgag cgggcgcagt 2640
 gattataggc tttcgctcta agattaaaaa tgccctagcc cacttcttac cacaaggcac 2700
 acctacacc cttatcccca tactagttaa tatcgaaacc atcagcctac tcattcaacc 2760
 aatagccctg gccgtacgcc taaccgctaa cattactgca ggccacctac tcatgcacct 2820
 aattggaagc gccaccctag caatatcaac cattaacctt ccctctacac ttatcatctt 2880
 cacaattcta attctactga ctaacctaga aatcgctgtc gccttaatcc aagcctacgt 2940
 tttcacactt ctagtaagcc tctacctgca cgacaacaca t 2981

<210> 683

<211> 2466

<212> DNA

<213> Homo sapiens

<400> 683

atgtgaccgg ccgccggcac cgaccgacct ccctcaccgg cggctctctc gcctgggctc 60
 ccggagccgg cgaggaggga atggaggact cgcgccgggg ttaggcctcc cagggccgct 120
 caggctggtg ggtgttgctt ggtgacgggc ctgccggcgg ccggccgggc gatcggcggt 180
 cggcgcccg ccaaagcggg gctggacgag cagcgagctc cggggagcgg atccgagagg 240
 gccgagtcct cgaaagaggc cttgaggcga cgggagacct gggatcgaag tcagctgccg 300
 gagggagagc ccccatgcc ggctcgagag ctcgggtttc ggtggtggag aacgtagtac 360
 ctttcgggga cattggacac tactctagga ccgggtaact ataactacc aatattgcag 420
 ccatggagtc catgcttaat aaattgaaga gtactgttac aaaagtaaca gctgatgtca 480
 ctagtgctgt aatgggaaat cctgtcacta gagaatttga tggtggtcga cacattgcc 540

gtggtggcaa tgggctagct tggaagattt ttaatggcac aaaaaagtca acaaagcagg 600
aagtggcagt ttttgtcttt gataaaaaac tgattgacaa gtatcaaaaa tttgaaaagg 660
atcaaatcat tgattctcta aaacgaggag tccaacagtt aactcggctt cgacaccctc 720
gacttcttac tgtccagcat cctttagaag aatccaggga ttgcttggca ttttgtacag 780
aaccagtttt tgccagttta gccaatgttc ttggtaactg ggaaaatcta ccttccccta 840
tatctccaga cattaaggat tataaacttt atgatgtaga aaccaaatat ggtttgcttc 900
aggtttctga aggattgtca ttcttgcata gcagtgtgaa aatgggtgcat ggaaatatca 960
ctcctgaaaa tataattttg aataaaagtg gagcctggaa aataatgggt tttgattttt 1020
gtgtatcatc aaccaatcct tctgaacaag agcctaaatt tccttgtaaa gaatgggacc 1080
caaatttacc ttcatttgtt cttccaaatc ctgaatat tt ggctcctgaa tacatacttt 1140
ctgtgagctg tgaaacagcc agtgatatgt attctctagg aactgttatg tatgctgtat 1200
ttaataaagg gaaacctata tttgaagtca acaagcaaga tatttacaag agtttcagta 1260
ggcagttgga tcagttgagt cgtttaggat ctagttcact tacaatatata cctgaggaag 1320
ttcgtgaaca tgtaaagcta ctgttaaattg taactccgac tgtaagacca gatgcagatc 1380
aatgacaaa gattcccttc tttgatgatg ttgggtgcagt aacactgcaa tattttgata 1440
ccttattcca aagagataat cttcagaaat cacagttttt caaaggactg ccaaagggttc 1500
tacaaaaact gcccaagcgt gtcattgtgc agagaatttt gccttgtttg acttcagaat 1560
ttgtaaaccg tgacatggta ctttttgttt tgcccaatgt tctacttatt gctgaggaat 1620
gcaccaaaga agaatatgtc aaattaattc ttcctgaact tggccctgtg tttaaagcagc 1680
aggagccaat ccagattttg ttaattttcc tacaaaaaat ggatttgcta ctaacaaaaa 1740
cccctcctga tgagataaag aacagtgttc tacccatggt ttacagagca ctagaagctc 1800
cttccattca gatccaggag ctctgtctaa acatcattcc aacctttgca aatcttatag 1860
actaccatc catgaaaaac gctttgatac caagaattaa aatgcttgt ctacaaacat 1920
cttcccttgc ggttcgtgta aattcattag tgtgcttagg aaagattttg gaatacttgg 1980
ataagtgggt tgtacttgat gatatctac ccttcttaca acaaattcca tccaaggaac 2040
ctgcggtcct catgggaatt ttaggtattt acaaatgtac ttttactcat aagaagttgg 2100
gaatcaccaa agagcagctg gccggaaaag tgttgccctca tcttattccc ctgagtattg 2160
aaaacaatct taatcttaat cagctcaatt ctttcatttc cgtcataaaa gaaatgctta 2220
atagattgga gtctgaacat aagactaaac tggagcaact tcatataatg caagaacagc 2280

agaaatcttt ggatatagga aatcaaatga atgtttctga ggagatgaaa gttacaaata 2340
 ttgggaatca gcaaattgac aaagttttta acaacattgg agcagacctt ctgactggca 2400
 gtgagtccga aaataaagag gacgggttac agaataaaca taaaagagca tcacttacac 2460
 ttgaag 2466

<210> 684

<211> 2860

<212> DNA

<213> Homo sapiens

<400> 684

ccaagccatg gccccccagg ggggccagga ccacctagag atgcagagga ccctgatcag 60
 agtgagacgt cttcagaaga agaatcagga gtggaccagg aactctcaaa agaaaacgag 120
 actgggaacc agaaggatgg gaactctttt ctttccattc catctgcttg caactgccag 180
 ggaacacctg gaattccaga agggccttac tctgaggag gaaatgggtc ttctagcaac 240
 ttttgccacc actgtacctc tccagctttg ggggaagatg agttggaaga ggaatatgat 300
 gatgaagaat ctctcaagtt cccagtgat ttttcacgtg tgtccagcgg aaagaaaccc 360
 ccatcccga gacagcggca ccgctttcca acgaaggagg atactcggga gggcggacgt 420
 agggatccca ggtcccctgg tcgacatcgg ctgggtcggga aacgaagtca ggcagataag 480
 cgcaaaggcc tgggattgtg gggagccgag gaactatgtc aacttggaca ggcaggcttt 540
 tggcggctga ttgaactgct ggtattgggtg ggagagtacg tagaaacttg tggccatctc 600
 atctatgcct gcaggcaact gaaaagcagt gatttggacc tttttcgagt ttggatggga 660
 gtgtggacag ggcgggttagg gggctgggcc caggtcatgt ttcagtttct aagccagggg 720
 ttttactgtg gagtaggact gtttactcgt tttcttaagc tgctgggtgc tttgctgctc 780
 ctggctctgg ccctcttttt gggcttttcta cagttgggat ggcggtttct ggtgggacta 840
 ggtgaccggt taggctggag ggataaggct acctggctct tctcttggct ggattctcca 900
 gccttgcagc gttgcttgac tctgctgaga gatagcaggc catggcagcg gctggtaaga 960
 atagttcagt ggggctggct ggagttgcct tgggtcaagc agaatattaa taggcagggg 1020

aatgcacctg tagctagtgg gcgctactgc cagcctgaag aggaagtggc tcgactcttg 1080
accatggctg gggttcctga ggatgagcta aaccctttcc atgtactggg ggttgaggcc 1140
acagcatcag atgttgaact gaagaaggcc tatagacagc tggcagtgat ggttcacct 1200
gacaaaaatc atcatccccg ggctgaggag gccttcaagg ttttgcgagc agcttgggac 1260
attgtcagca atgctgaaaa gcgaaaggag tatgagatga aacgaatggc agagaatgag 1320
ctgagccggt cagtaaata gtttctgtcc aagctgcaag atgacctcaa ggaggcaatg 1380
aatactatga tgtgtagccg atgccaagga aagcatagga ggtttgaaat ggaccgggaa 1440
cttaagagtg ccagatactg tgctgagtgt aataggctgc atcctgctga ggaaggagac 1500
ttttgggcag agtcaagcat gttgggcctc aagatcacct actttgact gatggatgga 1560
aagggtgatg acatcacaga gtgggctgga tgccagcgtg taggtatctc cccagatacc 1620
cacagagtcc cctatcacat ctcatcttgg tctcggattc caggcaccag agggcggcag 1680
agagccaccc cagatgcccc tcttgcctgat cttcaggatt tcttgagtcg gatctttcaa 1740
gtacccccag ggcagatgcc caatgggaac ttctttgcag ctctcagcc tgcccctgga 1800
gccgctgcag cctctaagcc caacagcaca gtacccaagg gagaagccaa acctaagcgg 1860
cggaagaaag tgaggaggcc cttccaacgt tgatgccct tctctttcct caaatcaatg 1920
tcagggagtc aaaagggctg tagcacagga tggagtttga tttatccctc ctccccaaac 1980
acctaggaac tgaatctttt tctttttatt ttttgagatg gagtcttgct ctgttgccca 2040
gctggagtgc agtggtgtga tctcagctta ctgcaacctc tgtctcccgg gttcaagcaa 2100
ttctcccatc tcagcctcct gagtagctgg gattacaggc acacaccacc acacctggcc 2160
cagctaattc tttttgtat ttttagtaga gacggggttt caccatgttg cccaggctgg 2220
tctcgaactc ctgagctcag gtgateccacc cgtcttggcc tcccaaagtg ctggattaca 2280
ggcataagcc actgtgcccc gcctgaatct tgtcttttga caataccaaa gaaatagggg 2340
gtagctagag taaagaacct agggcctgga cctgggctgg acagtgtatc ctttaggtg 2400
tgggaactgg gtatttcctt ggggtctgta tgcctttgtc ttgtcatttg ctttagggc 2460
agatgacact ttttccacc cttttaagc tacaagtcta tcttcttct tgacctttt 2520
caggaggag ccctctcctt tatcctgata taatatataa aagacagaac aagaaagcat 2580
gtagccctaa tgataggaga ttatcgcata gagttcagag actggaaact gaattttccc 2640
accaatttt aggctctttt ctgcaaggat ggccaaaatt aatcattttt aaaaagtaga 2700
ttcatgcca ctgcccttgg gtgaggggga agaatacggg ggttcccaga agccccatg 2760

tgatccaagg gtttgtatTT tttttttaag tttgttcata tttgtatgta catgactatt 2820
taaagccagg ggattatctt tctataaatg tataactggc 2860

<210> 685

<211> 2775

<212> DNA

<213> Homo sapiens

<400> 685

agcagtccag cagtgcagca gtgcagcagt gcagcagtgc agcagtgcgg tgaggcgagg 60
gtgcgaggcg gctaagcaag ggatgggccc gccgtggcga gccgtgggc cgtgttccgc 120
ctcctttcgg gctttccgcg ggtgtctggg gagggaaacc ggccgcgggc ctcaggccgt 180
ccccctccgc agacccttc tcttattctg agtctaacct atccgctggg gccctggaaa 240
gcgattctcg cctggagtgg ctttaggcag cgggtggggg gaacgtcctc tctcaggtgc 300
ctgggctcca acctccgagc cccgggttgc tcacgttctt ccggtcctct acccgaaggc 360
tcgatcccgc tggtagcagc gcggccaggc tccctgtctt ggtagccgtc cctctacccc 420
cgcccatga cctcttctag accattgaaa gagcatccaa accactttcc tgctgccact 480
ctttcctacc atccctctaa atcacagttt ccaggtgact tttctaagca tggcttttct 540
cgttcactcc tgttcaaaaa tcttctcacc aattttgtca ccatttactc agctgagtgc 600
ctgctttctg tcaagtatTT taccaataaa tctctactcc acaccaccga caagaaatat 660
tttggagcca tttaaaaagg aggaaacgga agcttctgcc gctgcctgat tctccattgc 720
tccgagccgc gcgggtgtct cgggctgtgg agccgccggc cgagccccgc cggagcgccc 780
gagagccccgc gcgtcccggg cgtccgtcgg ggtccgaggt ccctccctca gggagtcccc 840
gctcggcagc gctctcgcgt ttcacgcagc ggccggggat ctgggacagg cggggccccg 900
aggccgagcc tggcgtgcc cagcggccgg tgcaggcctc aagctgggcc gggcgagggg 960
gaaccggcga gttgaagccc cggggccgaa agccggagcc tgtggcggcc gcgggggtgg 1020
ggaggggggt ggggcggctt cttgggcagc gccacacggc ggcgagtgta tggatgttaa 1080
cagcagcggc caccggacc tctacgggcg cctctgtctt ttctctctgc cggaggtggg 1140

gggcaggctg cccgacctga gccccgacgg tggcgccgaa ccggtcgcgg tctccgggac 1200
gccgcatctg ctgagcgggg cccccgaggt gacggccagc ccggcgccca cctgggacgc 1260
aacccccgggc aatgcctccg gccgcgggga gcaaatcaag aaagggccga gaaagtgtgt 1320
atcggtcttg tctgacgct catctctctg cgatcgcggg caactgcctg gtggtatctc 1380
cgtgtgcttc gtcaagaagc tccgccagcc ctccaactac ctcatcgtgt ccatggcgct 1440
ggccaacctc tcggtggcca tggcgggtcat gcccttcac agtgtcaccg acctcatcgg 1500
gggcaagtgg atctttggac actttttctg taacgtcttc tccgtgaatg tcatgtgctg 1560
cacggcctgg atcttgacct tgtacgtgat cagcatcgac aggtaccttg ggatcatgaa 1620
gcctctcacg taccctatga ggcagaaggg gaaatgcag acgaagatga ttctttctgt 1680
ctgccttctt tccgcctttg tcactttacc taccattttt ggtcgggctc agaatgtaaa 1740
cgatgataag gtgtgcttgg ccagacagca gtagtcaccc tgaatggcac agtgaagttc 1800
caggaggtgg aagagtgtgc aaaactttcg agactcctca agcatgaaag gaaaaaatat 1860
ctccatcttt aagcggaaac agaaagcagc gactaccttg gggatcatcg tctgggcctc 1920
caccatgtgc tggccgcctt ttttcctcct gacagccaga cccttctgtc tatggcactg 1980
cctgcagctg catccactg tgggtggaga ggatatttcc atggctgggc tatgcaaact 2040
ctctcattaa cccttttatt tatgccttct tcaactggga cctgaggacc acctattgca 2100
gccggctcca gtgccagtac cagaatatca accagacact ctgagctgca ggcatgcatg 2160
aagccctgaa gcttgctgag aggccagaga gacctgagtt tgtcctacaa aactctgact 2220
actgtagaaa aaaaaagtca tgattcatga ctgaaagagg gataatggag atgaaataaa 2280
caaggcaaaa tagaggtgga aacagaagaa agtcatttgc caagactgca gaatggaatg 2340
cagcttctgt cctttcttag gatggctaaa acgtgacaaa cagcatgacc tgatgtacaa 2400
catatcttat gagggagatg gtgacctctc cttttttctg tggatcagtg ttattgtgtg 2460
ttctcagttt aagatagcag atcatctcag cagtaagcac attgacagaa ttgagttcca 2520
gaaaggaagc agtttcaggt tcttagcaca tgtccaaatc catgcaagtg ggagaaagtt 2580
ccaatgcaca ctttccatgc ttccgagtct aggtctcgtg gtgaatattc agcaatcatt 2640
catgagaaag aatgtatttt gttgtatgac agaagggttt accaagcaaa ctgtggtgaa 2700
catagtatcg aatatgttgc atgtccattt tagaaaacag agcccagtca tcagctaata 2760
caaatgattt cccag 2775

<210> 686

<211> 3871

<212> DNA

<213> Homo sapiens

<400> 686

tgttacctac	cgctcaacac	cttcctcctg	cggccactgc	accggctcat	gcactacaag	60
caggtcctgg	agcggctgtg	caaacacctc	ccgccgagcc	acgccgactt	cagggactgc	120
cgaggtgagt	gctgggagcc	tgcgccacct	ggtgcccattg	ccacagttca	ggccgggtgc	180
tcccagactg	agcccagcca	gggaggggct	ccccgggtag	agaggtcagc	tgatgctggg	240
tcccaggttt	tcatcagggt	gggcgccggt	ttttattccc	gctctggtgt	ttggttacat	300
cttgattttt	ttttttttt	tttgagactg	agtctcactc	tgtcgcccag	gctggagtgc	360
aatggtgcga	tctcggtcga	ctgcaacctc	cacctcccgg	gttcaagcga	ttctcctgcc	420
tcagcctctg	gagcagctag	gattacaggc	gcccgccacc	acgcccggt	aatttttgta	480
tttttagtag	agacgggggt	tcaccgtgtt	ggtcaggctg	gtctcgaact	cctgaccttg	540
tgatccgccc	gccttggcct	cccaaagtgc	tgggattaca	ggcgtgagcc	accgtgcccg	600
gccacatctt	gatctttccg	taaagaaggt	gctaattgatc	gtcaggaccc	ctttcttctt	660
ttgcctcttg	catgcatttt	ctcctttggt	tcctgggtgg	ttttgtgcaa	agatccctag	720
agaagctccg	cttacagtta	gccccgccc	aggaagcttg	cttctacca	cgtgacggaa	780
actcatccct	ccaccatggc	cacagaacat	agcttgtaac	aaatcctgtt	gtcatttgct	840
accggtcggt	tgtaatgtgc	ccatcagcat	aatgagcatc	tctcctgtat	taactcttcc	900
caagcctcag	gcacaggtga	gttcattctta	catatgggga	ctacggagac	tagagaggtt	960
aaggaacctg	cccagagtca	cacagcttgg	agggaaatga	tttggaact	aaatctagaa	1020
cccatgggtca	caaccgtcct	gcccttctat	ctcatggaca	gtcctaccg	ctcgtacttg	1080
ctcagcccca	ggccaggtgc	tgcatacctg	atactgtacc	aacgttcaca	ccattactcc	1140
tttaaggacc	ccttttagatc	aattgcatta	tcccatttta	cagagcgtga	cgctgagact	1200
caggggaagg	gacttgctgg	gtcactcaga	ggtcagagcc	gcattccaga	cctgcttttc	1260
ccacggggcc	acgcgtgctc	ttctgaacgg	aagtcgttct	gtctggtgtc	acagttggtc	1320

tgtgggtgtc tgcctccct ggcctagcat gcggagtgg ccctgcgtag gtggctcccg 1380
cacaggtggc ccgaatccac acaccacta ggagggcaag gcccttattc cttgcctgaa 1440
atgtcagaaa cacctcccaa ctcttttagcc aaaactgtca tcttttttaa aaatccatct 1500
tcttacacct tggcttaaaa cctgggtgac ggctgactgc ctcaggctaa aatcggaagt 1560
cttcatgacc tggcctggcc agctctcaca cccagctgc gcagcgagca cctgtactgg 1620
gcgtgtgagg gagaaggaac agtgcggccc ctgacctcac aggaccact ggagggctctg 1680
caggcaggta cctgggtgct ggagggctctg caggcaggta cctgggtgct ggagggctctg 1740
caggcaggta cctgggcagt ggcaaccctg cactagggcc gtgagagaga agtggacggt 1800
gcagttggag ccggggcggt aggggggtgtt ggggggatct cgaagggaaa tgggtgtctaa 1860
gttcagaact aacatgtaaa taggagtttt cctgggtgaa aggaggggtgt ggagaataga 1920
gttagaaaca gcacaagctc aggttcagag gggacagaga ccggaacatt gccaaaagcg 1980
tgcagggcac agggagagcc acaaagttag gctgcgacag aaagcagcgg ctacatccca 2040
ctgcgcccc a tggaccccg aaagccgtaa cctaagagca gaggccgaac aggaagtgtt 2100
ttaaggaggg aaacagtgat accaggcttg ttctagaaaa accgttgta atatctagaa 2160
tatatggcgg actcctacaa attagtgtt aaaaaaggc aaccaatag gtagaagact 2220
tggcaaagta attgagacag tgacagttca cagaaggga acacaagtgc ctcctgacat 2280
ggtttgtcat tgaccatctg tctttaaac aaaccatgct ggccaggggt ggtggctcac 2340
acctgtaatc ccagcacttt gggaggccaa gatgggagga tctactggagg ctgggagttc 2400
aagagcagcc tgggcaacac agtgagacct tgtctctaca aaaaatttaa aaattacgag 2460
catgcaccta tagtgccggc tactcaggag gctgaggtgg gaggatcgca tgagcccagg 2520
agttggaggc tgcagtgagc tatgattgca ccacagcca ggcgacagac ctagaccag 2580
tctctaaaaa caaaacatg ctgcctcttg cctccacacc ttggtgcatt ccgttccttc 2640
tgcttagagt cctggccgcc acctccttg cctttcctgg ccagctctct ctcgtccttt 2700
aagcctcagc ttgtgcctgg cacctgatgt tgagctgacc tcctgtccgc cttgtcctgt 2760
cacactggca ttgcctgtgt gttggccgag cccggaggaa aggaccagg gccctcctg 2820
gctctgagga ctcctcagat ctgtcgccca tgggggtgag agcgggtgtgt ggttttgaag 2880
gcgctgttct tggcggactc atccagttcc actctgctat ttctctaaac agtaccat 2940
ggagataggc tacccttgat gattgaggaa gagagtgcta gctagcttaa agcatgaagt 3000
ggcagcactg taggagccta ggtttccaga gctagaggga cactgaatgc caagggtgt 3060

tcccagcacg cccctgcccc tgagcaccgg gggccggggt gccatcattc catcattttc 3120
 ctctcagagc tccccactac cccccagccc tgccactgag cactggatgc caagtaaagt 3180
 tttattggac caaactgggt ggtcatgtct gaaaatcgag caaggcctgg gatttgtcac 3240
 tatggctgag accgcattct ctgataagcc tgggagaatt taactcgcac ccttggggga 3300
 aaaaacaaga aaactaaatg cttcccttcc aacactgaaa tgctggggga aagcagtga 3360
 agaggtattt agagttctga agactgaagt tcagtcaaca agtatttctt gcttttcttg 3420
 accaaactac ccaagtgtc agccgctggg gacttgagt ccacccaaac ttgtcagcca 3480
 ctggggactt gcgtgccacc caagcttgta ttaatcaggc actagcttct tttaaatatt 3540
 ggatgcccac cagtatagg gagccgtgcc tctatcgaaa aataaaggcc tgatgtggtg 3600
 gctcatgcct gtaatcccag cactttgggc ggccaaggcg tgtggatcgc ctgaggtcag 3660
 gagttcgaga ccagcctaac caacatgggtg aaacctgtc tctactgaaa atacaaaatt 3720
 agccgggcgt ggtggcatgc acctgtaac ccagctactc gggaggctga ggcaggacaa 3780
 tcacttgaac ctgggggcag aggttgcagt gagctgagat tatgccattg tactccagcc 3840
 tgggcaacaa gagcaaaact ctgtctcaaa c 3871

<210> 687

<211> 4000

<212> DNA

<213> Homo sapiens

<400> 687

taaagaggaa atgcggcccg ctccccactc agtgccactc tgtgccactc cgtgccaggc 60
 cctgagggca cccggttgct gcttccttcc gtctttcccc aaggactatc agaggcaggt 120
 ggctgggcca ggggggtgggt cggggggagg tctggccatg tggtagggtg ataggactga 180
 ggggccccag ggagctggct gcagggcagt ttgtttctcc tgatggagaa tgctccctgg 240
 tgggtggggc gatgggctgg ggaactggtt gtcatgggg acagagatca gaagtgggct 300
 tgagaagaac agggccagaa ggcctggact ctggccccag cctagcccct aatttgtgca 360
 ggggtggcttt gggcaagtca ctaagtcact gtctagactg ggcctcagc cttcctgtct 420

acccaatgga ggggtctttct gtccacctgg gaacagcctg ataggactga agcacagccc 480
ttagtttcca gatgagaatt ctggactgga ggccctgaca ttacaattgc caacactgac 540
tctggtgttt ggcaaaattt ggtgtatgtg ggaaacacgt gcctctgggt gaggtcctta 600
acttcagaat ttccctctag atcaatgctt tttaaagcac taactccaac accaccatct 660
tctgtaggag ctttcgagct ttccagcttt tccagcatac gtcctgatc tgttactcag 720
gcatgctggt tatcccatth catacgtgga caccttgagg cctaaagggt ggtgactggc 780
tctacctgac acctctgtgt gattctaggt tgcccttgc tcctctctgg gcctcagcct 840
ttctgtctat gcagtgggga cttcgatcg ctgttgtttc agagtctgag gctatgaggt 900
ctgagagggc ccttgtgtgg agtcacctct gagctgcagg caggatttcc agggcaagaa 960
ggccacagca tcagcaggca cctgtctttg gcctgtgagc catagcctaa ggcgtgcctt 1020
tcccgacctt ggccagatca cgctagagtc ctccaaggcc tcccctccct tgcccagcca 1080
ccttctctgc tctgcagggc tccactttca ctttcacact cccaggctgt ggctcttacc 1140
cgtgccgagc tttcacatcc gctcacatct gtgctcccag atgccagcgt gaccctgac 1200
acgtgtgtgc agcagcctgc agctgcccc aagccatggct gaacactgac tcccagctgt 1260
ggggcttcac cattacagac tccccagggc ttcaaagact tctcagcttc gagcatggct 1320
tttggtgtgc agggcagctg tacaatagtg gatgtttgag acggaggcag atgagaagag 1380
ggagatggcc ttggaggaag ggaaggggccc tgggtgccgag gattccccac ccagcaagga 1440
gccctctcct ggccaggagc ttctccagg acaagacctt ccaccaaca aggactcccc 1500
ttctgggcag gaaccgctc ccagccaaga accactgtcc agcaaagact cagctacctc 1560
tgaaggatcc cctccaggcc cagatgctcc gcccagcaag gatgtgccac catgccagga 1620
acccctcca gcccaagacc tctcacctg ccaggacctt cctgctggtc aagaacctt 1680
gcctcaccag gacctctac tcaccaaaga cctccctgcc atccaggaat cccccaccg 1740
ggaccttcca ccctgtcaag atctgcctcc tagccaggtc tccctgccag ccaaggccct 1800
tactgaggac accatgagct ccggggacct actagcagct actggggacc cacctgcggc 1860
ccccaggcca gccttcgtga tccctgaggt ccggctggat agcacctaca gccagaaggc 1920
aggggcagag cagggtgtct cgggagatga ggaggatgca gaagaggccg aggaggtgga 1980
ggagggggag gaaggggagg aggacgagga tgaggacacc agcgatgaca actacggaga 2040
gcgcagttag gccaaagcga gcagcatgat cgagacgggc cagggggctg aggggtggcct 2100
ctcactgcgt gtgcagaact cgctgcggcg ccggacgcac agcgagggca gcctgctgca 2160

ggagccccga gggccctgct ttgcctccga caccaccttg cactgctcag acggtgaggg 2220
cgccgcctcc acctggggca tgccttcgcc cagcaccctc aagaaagagc tgggccgcaa 2280
tggtggctcc atgcaccacc tttccctctt cttcacagga cacaggaaga tgagcggggc 2340
tgacaccgtt ggggatgatg acgaagcctc ccggaagaga aagagcaaaa acctgtacgt 2400
tgggaagatc cctggcttct gcgctcctct tcctcccttg cccagggct tgtctctct 2460
ctaggggtcc aggtggggag aagaggttgt gcctgggtccc gccacaacc ccagacagac 2520
accaagggaaa aactggatct tggaactttg cagtgacccc aaagtgggggt cacctgggtc 2580
ctgagcattc tctccaagtg aggcaaagtg ctgattcagt acccggaagc cacagtgaac 2640
cagaagcaac cagcccgttt gccctggctt tagcccagct tctgagccaa gcagggacca 2700
agtgacttca acaactcctt tgctccctct gggcccaaga gtgacctgag aaggggtgga 2760
actgacagtc attggctcct ctttctcttc ctgagctcct gaatgctaata agtctcaggc 2820
attgccagga gggggcgctg ctggcccagc tgccgaatcc cgcactcgcc aagcctttct 2880
ggccacactc aggccttctt atactatagg gtgtttgtta gaggtgtcaa tgaaaaagat 2940
gtgtgtgtgg gttctcaggt cttcttctac cccaggcct aagaccctgg agactcgggg 3000
gaggtatagg gaggaggcag tgggggtgcat gcacagtgc acctccagag gaagcccctc 3060
cccaccaggt cctgtagcac ccaccactag gcaggaattg ggctataggg aggagcctcc 3120
tgcaaccctc ttctctggcc ttgaccgtgg gtgggggtcca ctaccctaga aagccttct 3180
caccacagct gccttgacct ctccagcttt ctgcagcaac tgttggtctt tcttactcca 3240
cagccaattg catcttctta gcaagggtgaa atgcataaac caaaacagtc ccttgacca 3300
accatcttca cttaaccttt tgtaggatga gagaggatcc aggggggtgcc aggactgttg 3360
aatgtggtgc tggaagtggg ggggtgtaggg aagcagtgtg tggcgagag ggcaggcatc 3420
ccgggtgctg gagcagccct gtctagcctc ctttcaatgt aggtgctgcc ttttgaattg 3480
cctgaagccc acactttttt tttttggaga cagagtctcc ttctgtcacc caggctggag 3540
tgcgatcttg gcttgctgca acctccgcct cccaagtta agcagttctt gtccctcagc 3600
ctcccaagta gctgagatta cagggtgtgtg ccatcacacc cagcaaattt ttttgtact 3660
tttagtagag atgggggttt tgccatgttg gccaggctgt tctcaaactc ctggcctcaa 3720
gtgatcttcc cgctcggcc tcccaaagtg ctgggattac agacatgagc caccatgcct 3780
ggcctctgaa ggtcatactc ttaaaagctt agacgaagag tcttagaaca tctacggtaa 3840
taataagaat aaccattaat gtttattatg cccgcactg ttctgtgtgt atttcatatg 3900

taatctaatt taatctttac cactactttt attttccgtt ctgttctttc ttattgacct 3960
tacccttatt ttacacgtga ataaactact gtgcaaagag 4000

<210> 688

<211> 2077

<212> DNA

<213> Homo sapiens

<400> 688

gatacagatc agatggtgac tgaatagaag ctgccccagt cctgggctca tgatgtacgc 60
acctgttgaa ttttcagaag ctgaattctc acgagctgaa tatcaaagaa agcagcaatt 120
ttgggactca gtacggctag ctcttttcac attagcaatt gtagcaatca taggaattgc 180
aattggtatt gttactcatt ttgtttgtga ggatgataag tctttctatt accttgcctc 240
ttttaaagtc acaaatatca aatataaaga aaattatggc ataagatctt caagagagtt 300
tatagaaaagg agtcatcaga ttgaaagaat gatgtctagg atatttcgac attcttctgt 360
aggcggtcga tttatcaaat ctcatgttat caaattaagt ccagatgaac aagggtgtgga 420
tattcttata gtgctcatat ttcgataccc atctactgat agtgctgaac aaatcaagaa 480
aaaaattgaa aaggctttat atcaaagttt gaagaccaa caattgtctt tgaccttaaa 540
caaaccatca tttagactca cacctattga cagcaaaaag atgaggaatc ttctcaacag 600
tcgctgtgga ataaggatga catcttcaaa catgccatta ccagcatcct cttctactca 660
aagaattgtc caaggaaggg aaacagctat ggaaggggaa tggccatggc aggccagcct 720
ccagctcata gggtcaggcc atcagtgtgg agccagcctc atcagtaaca catggctgct 780
cacagcagct cactgctttt ggaaaaataa agaccctaact caatggattg ctacttttgg 840
tgcaactata acaccacccg cagtgaacg aaatgtgagg aaaattattc ttcatgagaa 900
ttaccataga gaaacaaatg aaaatgacat tgctttgggt cagctctcta ctggagtgtga 960
gttttcaa atagtccaga gagtttgcct cccagactca tctataaagt tgccacctaa 1020
aacaagtgtg ttcgtcacag gatttggatc cattgtagat gatggacct taaaaatac 1080
acttcggcaa gccagagtgg aaaccataag cactgatgtg tgtaacagaa aggatgtgta 1140

tgatggcctg ataactccag gaatgttatg tgctggattc atggaaggaa aaatagatgc 1200
 atgtaaggga gattctggtg gacctctggt ttatgataat catgacatct ggtacattgt 1260
 gggatatagta agttggggac aatcatgtgc gcttcccaaa aaacctggag tctacaccag 1320
 agtaactaag tatcgagatt ggattgcctc aaagaccggt atgtagtgtg gattgtccat 1380
 gagttataca catggcacac agagctgata ctctgcgta ttttgtattg tttaaattca 1440
 ttacttttg attagtgtt ttgctagatg tcaagaagcc cttcagacc agacaaatct 1500
 aatatcctga ggtggccttt acatacgtag gaccaaacc tctctacat gagggagaagaa 1560
 gacacagcaa atgacagaca gcacctattc cttactcaca agggaaactg cttgtgatac 1620
 ttcctaataa gataaatgag tggtttcct caattgaaga caggaaatc attttcaca 1680
 ggatatgaag agctgccagt aatgccaaaa tcttacctca tataatacct ggagcatgtg 1740
 agattcttct agtgaaaaag aacagtcttc cctgaagact cagggttca acattctaga 1800
 actgataagt ggaccttcag tgtgcaagaa tggagaagca tgggatttgc attatgactt 1860
 gaactgggct tataatctaat aatacagagc actatcacta acctcaacag ttgacatttt 1920
 aaaagttttt aaatgtatct gaacttgctg ttaacacagt gttataactc aagcactagc 1980
 ttcaggaagc atgttgtgtt gttaagaagc ttttctgatt tattctttaa cagcatcttg 2040
 ccatctatat gttagtagca gttggcccag aaaggac 2077

<210> 689

<211> 2788

<212> DNA

<213> Homo sapiens

<400> 689

ttgacgttgg gactcagact ttttcacttc catctgcaat attagctaca agtacaatgg 60
 ttggggagat agcttcagct tcagcttgtg atcatgccaa tccacagctt tcaaattcaa 120
 gtccgtttca gacacttggg ctggatttag tattggaatg tgtcgctagg taccaaccca 180
 agcagcgttc aatgtttacc tttgtgtgtg gacagttatt tagaaggaaa gaattttctt 240
 cccactttaa gaatgtgcat ggtgacattc atgctggact caatggctgg atggaacaga 300

ggtgcccttt agcttactat ggttgtacct attctcagcg tagattttgt ccatcaatac 360
aaggagcaaa gattatacat gaccgccaat tgaggtcatt tggagttcag ccatgtgtat 420
ctacagtatt agtggagcct gctagaaact gtgtgttggg attacataat gaccatctaa 480
gtagtcttcc ttttgaggtc ctgcagcata ttgcaggctt tctcgatggc ttcagcttat 540
gtcagctctc atgtgtatcc aagttaatga gggatgtgtg tggcagcctg cttcagtctc 600
gtggcatggt catactgcag tgggggaaaa ggaagtatcc agaaggaaat tcatcatggc 660
agataaaaga aaaggatatg cgatttagta ctgcattttg ttctgttaat gaatggaaat 720
ttgtctgacat cctaagcatg gcagaccact tgaagaaatg cagttacaat gttgtcgaga 780
aacgggagga agcaatccct ttgccatgta tgtgtgtgac acgagaactc actaaagaag 840
gacgttcact acgtcagtt ttaaaacctg tactttaaaa gttgtaatat tactagcaca 900
tatatgcaag cacctagtat aatttctttg taatatgtga aactttatta atgtattaaa 960
tattacaact agctaaattt attgtcactg tgtatataat gttttgaagt gacatctatt 1020
tttataaagt actgtttagt tggaaaaagt tgccttaatg tttgaaatgt gtgaaatttt 1080
tggaacttgc tggacagggt gatttaattt ttagctacat aattttaaga attagtattt 1140
tcagtgggtg gcatattttg gttcttaaat ttttgcttct taaactaaaa aaatcctgac 1200
caatttattt gttgttttct gtgggttgcg acccatgcaa tcaaaaagca aaattttgat 1260
tgagattttt tacagcatag gtttttcata taaaaatatt ctgaatttgt taagcactgc 1320
cataatatca ttataatgtt ttgtctttt agtgcttccc tatacaattg ttaatgcaca 1380
aatgatctct aatatatact tacatacgta aaatcataaa gtttggtaat gcagtttatt 1440
gttttaaaaa taatccacaa agatgttttt atctcacata cttacaactc aacacacaga 1500
gtgacatgt gcagctttct tttttgttag atgccacatc cgaagactca tcgcagtgtg 1560
ttatatgaca ggacaaagca aaaacaaaca aaaagcaagc ctgtgaatat aatttaattt 1620
gaaactgctc ctggtattat atatttgcta gttatcta atgttttaaaag aaaatatacc 1680
tcatttaggt ttgaattggg cgtatttgtt aaatttcaaa tattcagaat gcaaagggt 1740
tgactattaa atgtttgcct ttgatgttta taaacattac aactatgttg ttttaagaca 1800
tttaaaaacg tgaaatttgt tatctttgta aaatgacaat catgtagaaa cctgtcttgg 1860
ttgacaatct ctttgaaaca tttccgagtt aatttcccat aggcttcacc accaagaaag 1920
taagaattgc atctttacat aatgatcaag gtataatgga aaaatatacc tattcttggg 1980
gtagtttatt atagttttca aattgattta taccattatt aacctgatgt ggtctgctta 2040

aaaaatgaat atatcagtat ttagaaataa attgcaaagg tgggaatata tacttaaata 2100
 atttgtctta agtaaattag catttggttag tctgaaatgg tgacagatta cttgttaaaa 2160
 ttgtgaaaac tctgttgtgt cctctcttcc tacatttgtc cctgagagta ctccacgatt 2220
 actaggttct tgattccctt atatggcaat caggcagagg cgttccttaa gcattagaga 2280
 gttctgaagc ttaagatttg ttttggttgg atgaagtcct tagtacagtt gaaaaacaga 2340
 gcattaaaga ctaatcaatt gttttgcctc accagtcatt ttaaatagta gaatacttat 2400
 ttctcagtcg ttaaaatttc tttttcaact gtgagattga ataaacagtc tctatttctg 2460
 tggaaaaaac aacagaaaag agatattaaa taccataaaa tgtaactctg ctttttaaag 2520
 ttttgcgtgaa gaatgtgtct gtggtttagga tagcacaagc attaactttt gttttatagt 2580
 tatgcttttt aaaattcatt gtttttaaat ttagacttct tatttccaca ctggattatg 2640
 agatacttaa caatttttcc accttatatt tcttttacac attttgctgt tctctttttt 2700
 gttattgtta tgccaccata ccattttgtt aaaatgtttt ctttgtgaaa catttgttca 2760
 agttctaata aaattaatgt tttccctt 2788

<210> 690

<211> 4018

<212> DNA

<213> Homo sapiens

<400> 690

ttctatcatc taaggaaaaa agacaaggga attccagtca ggcattatit tctattact 60
 agtgtttgca gaataggtgt aggactatit aagtttagac cttggtttgg tagttcttgt 120
 ttttaataag gggaaaaaga taaaataacc cctatititc ctgttattgt atttaactaa 180
 tatattatit ctttaagggtt actcacttcc cctaccctc caaatacctt gcattctcaa 240
 tcaaaaatgg aaacaatctg agagacagga aaagtgcaat attaccaaga tggatgccag 300
 ggctcattgg ggacaatgga gggaatacca gtggcgctca gagagcaaga ggcagggagc 360
 ggggtgctga aggaatccta gctgtggaac aggtgggtgg gttggtggag tttgatcttg 420
 tggcgttctc ctctccccct tctttgggaa gatgataggg gtccttgcca gatccacca 480

gaagaaaggg attcaggcat ggggcccttg acctctaggc cccagtcctt ggagcagagg 540
caggccctcg ggagctgttc cttgttttga tttctgttgt ggtgcagcca gctgctcaga 600
gagacttggc ctaaaaatga ctcccagcag ccctctctca ccccagtgtc ctgatatttg 660
ggctgtgatc cttctgggtg atgtttgaat ctttctaaaa ctgggtgccc tcagttcagt 720
ttctaggcag gaagcctaga agtcaccaga tctttttggg ggatgtgaga accttgagcc 780
gcgcacaccc tggtagagaca ccaattccca caagcctgca gcagggcctg gggctgagcc 840
tgggctgccc attcatctca gcgacttcag cctgagaagt gagccctgcc tgggctccac 900
accagagag tccatacaaa ttctgctccg ggaagagtgc ggggggtctat tcaagtttct 960
ctgcagacaa aacttccac aacaggtacc aatctggcct ccttcctcag caccggtaga 1020
gaaagcaaca gaatgggaag tttcctctgg gttggagcct cagagctctg cccctcaagg 1080
tgacagggac gtccctgtgg cttgttccct ccacctccag tactgtatgc ttgctacttc 1140
aacccttat ttggtgaatt tctgcacaga cacagatctc tgtgcctgga atgggactgt 1200
gccctgtgcg ggtctctccc ttggcgtata tccatctaga tatttagtct ttgagaatct 1260
caaagcagag ctctctggga agagaactgt ccacattgct aaataattaa gattccctca 1320
cttttttgag ggccatgtgt tgagtgagag agagagagag agagagagag agagagagag 1380
agagagtgtg tgtgtgtgtg tgtgtctgtg tgtgtgtctg tgtatgcaag tgttgtaac 1440
ttcccacttg aactaaataa catgggggta gagaaaaaaa aataccaggc aagctgtctc 1500
cattgaacaa gtccttggca atgggcaggt cccaagggac tcacagcttc tggcagcaag 1560
tgtgtcattc acacacatca ttctggctgg agagtgcatt gtgtcatttt ttttctttt 1620
tgtaattatt ttattaagta tttagttgga aatttcacac tggcattaac aggtctagca 1680
taagtggcct aggcagtcct cccaggtcc aaaatgaaga tgtgcaaaag agatgccact 1740
gggaatagaa aactgagtt ggttcagtta ggcatcccc tgcagacgtg tcatcgagca 1800
ggctgactcc caccctcag ccatgccatg ggtatgagaa gcccttata atgaaagctg 1860
ccagcccttt cgtccttggt tcagagggtg ggtcagggtg ttgggggtgag aacttgctca 1920
cgggtgcaccc aacaagacct gcaggtgcat ataagtttag tcccaactgc agggccagac 1980
caaacacttc ctgggaagtg tgtggagggc tgtgctagac cttcctgagt ttctggctaa 2040
atcatcagcc ctgtttgggt cagtctcatg tctctgttgt tccaagctg catgatcaga 2100
gccagtgaga agacaggatc agtgaccac agctttgggg aaaaacagcc cactgttaa 2160
cttcctcct gcaaactgg gtccccaggc cataaggtgg gcacactggt gcttacagac 2220

tgggtggaga gccctacctt ccaaggtctt gatcccagcc tgcctataag gttgggatta 2280
gcatgcaatc ccccttcccc aatcctgtct ttttaaaatc tcaagtttgc acttaacctt 2340
gacaacagca ccctctccta ctccagtcct agaactcagt ggccttagag aatgggggtcc 2400
cctgcactga aggtccccgc cttgctccca gttccatcct ggccaatagg ctgcgcctca 2460
agaggtgaaa gagaaaaaag ggagggaggg aggaagaatt atttagaaca aaaggatggc 2520
tcgagcacgt tagaggcaag tgagaggcac gctgggtgaga agagcatgtg catgtttggg 2580
gtagctgggg cctactgtcc cttcattagg gaaggaggct tccagaagcg gatgtcttct 2640
agaaagaaaa attgtgtgaa ggctgaaaag gggcttggag ttttgtcttt gttgattaga 2700
aagaaggaa gagtcagctc tgagtgtttc aggaagaaga gagcaggtag aaagggaatt 2760
tagtgattta acaccaagg gtccagccat agcagggttg aaaatcctcc aaatttggcc 2820
acagaagctg gctaggaaaa aactgccact cattgggcca cacgctgggt ccccatcagt 2880
tctcaatgaa tggtcattga tttacttagc agagagaagt caccagccac aaaccaatct 2940
ttgagtttgc aggccctgat tccagaatat atgcatccag ctcccgggtt ctcagctggt 3000
tttggccact tccctttgac tgtccaatcc aaagccagtc tctcaagttg tatggctcaa 3060
agagcagtga ccacaatggg tcatacagta gggaccacc tccacaaatt agaaccagag 3120
ttcagactcc attgggcaca tctgggagga aggcaacctc ctttgtcgtc ttgttggtac 3180
cagtcattct caagtatctc tgacacctgt ggtggttcag tttgctgagc ctgccacctg 3240
gtatgaatta gactgggtgt gatgaacatt catccatgga tataccctac cattttgcgt 3300
tgccttataa ccaaggcaca ctccccataa gagtttactg cagagaaaga acagcaaaac 3360
agccaccctc cttgaattta caactcatta tctgcaacag gttttcttta aatccaagac 3420
acaggatggg aatggggtt cccaccagg tactcagagg tctgcaggaa gtgactcccg 3480
ggcaaggcag acttcagtaa tccctgaagc gtgagcatgt ggactgcatg gctgggtggg 3540
gactggtgga tgtctctgga gctccagaac cttggagaat tcctcatgga attcccctcc 3600
cagctcttag tgggctctgt ggggtcagga ggagcccttc ctccaggttt tccttctttc 3660
ctcctcagca gagaaactgg agaaaggaca ttaaactcag tgcagtcgat ttgagtgtg 3720
aaatatttcc agaatcaatg gtggtgctaa actatctcca tgtttctagc atttttaata 3780
gtggagtggg tttgttttta atctcatcac aaaaatgcag tgcccttggg gaagggacca 3840
gccccttggc ctgccacttt ccaggtgtcc tttatcactt tgacgggact ctttggtctg 3900
cagaaaatgc tctgtcttgg catgcttcta gactgtaaga tttgggtttt gttttgtatt 3960

ttatgtttac atgcatctta tatttccttg aaaactaaat aaagttttgg gccttttt 4018

<210> 691

<211> 2958

<212> DNA

<213> Homo sapiens

<400> 691

cagtaagatg tgggaggcac tggcctgagt gatccctttt caagcaaagc cccatctcgc 60
cgtgctcaca ggactactgt cataggaaca tggatggttt gttcttccat ttttgtggag 120
ctcgggggatg ggggggatgtg tctgctgtca gggaggtgcc atggtaagtt gacagggcct 180
gatattagtg aaactacact gggatagcat cagccattta aagtaataat ggtaagacac 240
agcggtggtg gtggttttgt ttatatattat gaccttttaa aagtgtttgg cattttcagg 300
gaggtttggt ttttgttttg ttttttgagg ctcatgttgc ccaggctgga gtgcaatggt 360
gcagttctcg gctcactgca acctccgcct cctgggttca ggggattctc ctgcctcagc 420
ttcccaggta gctgggatta caggtgcatg ccaccatgcc cagctaattt ttgtattttt 480
agtagagacg ggatttcacc atgttggcca ggctggtctc atactcctga cctcagatga 540
tccgcccccc tcagccttcc aaagtgtctg ggattacagg catgagccac tgcacctggc 600
caggagagtt tttttctgat aatagaagta atactttctc actttagaaa atgtgaaaag 660
ttcagatata taaggaagtc aaacaaaacg tctcctatat atgaagaaga aaagaagcaa 720
gtttaaaaaa aaagaaaaaa aaaggtcttc tatcgtttct ccactcaaag acagctgtta 780
acattttatt gacttctatg gagtttgccc tatgcttctg ttttatgtaa tagagacagt 840
gctgtagtga atagcttcac gtcaaaattt ttctatgatt ttctgaagtt agagtcttaa 900
ttattggatc aaaggaagtg aacattttta aacctcttga tacatatatt accaaattgt 960
tttcttttcc gtttttttta ataaatagag atgggggtct ctctgtgttg cccaggctgg 1020
tcttgacctc ctggcctcaa gcaatcctct tccctccacc tcccagtag ctaagattat 1080
aggtgtgagc caccatgctc agccgctgat tttaacttgt atgttttaaa caaaatttct 1140
agtaaagtag aacatttctt tgatatgttt gtgtcaggat ttgactctcc caggtctttg 1200

gagaggcttt ctaacaagac atcccccggtg ggtggccatc tgcctgtga gaaggtcatt 1260
tctagtcca ggtcacgcac agtgtgtcag ctggtggggt gtggagtttc aggcccaggc 1320
ctcctggaaa gtgcccgaag gagaaacggc ttagaaaata aggactttaa cgggtggtgtg 1380
ggttgagttt ggaaagtta gaccatgtta gtggaatcag agctgggaag aggttctaga 1440
agttacctcc tctactggt ttccagtcca cacttctcag aactctcca ttttgcagtc 1500
aggtgcagtg gctcacatct gtaatcctag cacttgggga gaccgaggtg ggcagatcac 1560
ttgaggccag gagtttgaga ccagccctgg ccagcatggc gaaaccccg tttactgaa 1620
gatacaaaaa ttagccgggt gtggtgtggt gcacacctgt ggttccggct actcgggagg 1680
ctgaggcatg ggaatcgctt gagcctggga ggcggagggt gcagtgggcc ggggtcgcgc 1740
cactgcactc cagcctgtgt gatggaagga gactctgtct caaagaaaag aactcaccta 1800
ttttgcaaag gagcttcatg gttctcttga agaaaaatgg gaatggaggc cacctctgtg 1860
tcaaaaacaa catcccat tttgtgttt cactttttt tttttttt tgagactgag 1920
tttactctt attgcccagg ctggagtga gtggcgcat ctcggctcgc tgcagcctcc 1980
gcctcccggg ttcgggcggt tctcctgcct cagcctcct agtgggtgag attacaggca 2040
tgtgccacca cgcccggcga attttgtatt tttagtagag atggggtttc tccatgttgg 2100
tcaggctggt ctcaaactcc cgacctcagg tgatccgtgc ctggcctact ttttttttc 2160
tttttcttt ctttctttt tttcttttt tttttaaga gatagggtct tgctatgttg 2220
cccagactgg tctcgaacgc ctggcctcag gtggctctcc caccttggcc tccaagacg 2280
ctgagattac aggtgtgagc caccacgctt ggcctgtttt acatgttgac ggacagcata 2340
taatcacatg tataagggtt tctgcttgta aaagtctgga aaccattct aactgccaga 2400
atcacagaac ctagagaagg ggacataact gccctgtggc caccagtag ctttcatctt 2460
ctctcgcgac ggcagaggca ggacagccag cattctggtg aggattgaag gattagttgt 2520
aacagatttc agcaggtctg cagtgatcag atgggtttct cacatattgt taagttgaaa 2580
gtagccgtgg ctcagtatga gttgagtacc tgtttaaaat ctgcattcaa agccttcttc 2640
ccagaggcca caactgcagt gagatccaag tgtgtggctc acccgccccg gggctcacag 2700
ctgggcaggg tgatttccac tcaaattctt gtgccagtgc agatcttggt ctaaagcttt 2760
tctaaatgcc tggagactag aaagactttt ggatactttt cctttttct tttggatgaa 2820
attgcatctc cagtagaaca gcagcattcc atggtgcctc agccacgatc ctctggacag 2880
agatttgtgg cgaagacctg acgagagact gtaaaggaaa agcagggttt gtttttctg 2940

gtcaaagttg ttaatact

2958

<210> 692

<211> 2604

<212> DNA

<213> Homo sapiens

<400> 692

cccatggag	ttctaccct	gctcctctgg	tcaccctcct	gatggatccc	catggtgcca	60
ggcaggaatg	gcctgctagg	agatgcagtg	agcccccagg	acctctccac	tgcctcctcc	120
accctgtat	ttcacttggc	tctccaaatt	gactcaactc	cagaccataa	agaagatgga	180
gaggcacatg	gtcaggggac	aattgtataa	gcattttgat	ttggagagga	agaatgccaa	240
gcaggctgaa	gccagactgg	accaaagact	gcagagacta	aaggttat	gcctctacca	300
tgtgaaattg	ctgacctggg	agcagaggca	gctccaaaaa	gaactgcaga	ggttgcagca	360
agaaaccatg	aagaaaaagt	tctcctctta	tttggggaat	ggatttcaga	agagaccaga	420
agatgttctc	gtgttctcac	cacagggaag	gcagaagcac	agagccccac	aggctaagaa	480
aatgagagca	ttggcaaccc	gtatggccca	agacacatgc	aaaagcaagt	cccaggtgcc	540
tccttcacat	gatgctggcc	tcaaagaccc	catgaagagc	aaaaagcagc	cactctctca	600
aaataacaga	actgcctgct	tcataaaaga	gcaaccacaa	gccaagaga	aagattctgt	660
gaatccatct	aaggacgtag	accccagcaa	gggcatctct	gttccatgcc	aaaatcaaga	720
ggtttccacc	aacaccatag	aacaaggtcc	tagttccagc	ccagcctctg	gccttcaatg	780
gggagacaat	actttatagt	gaaaggaaca	caagaaatct	gcttcctcca	acactttctt	840
ccatgaagca	aagcaacaga	ggaaggcagg	ccataagtga	cagaactgat	tgattcacia	900
aaacttaatt	tatttgcacc	agccatgcct	gggccaacat	gaataggcat	acaacaatta	960
gagaaccctt	ttgtaaactg	cgcaagctct	ttcctaaaag	ttctttcttc	ttgtcttcta	1020
cgcaagcctt	gcctatcgtc	atcacaattc	tcctcaagg	ctgagtcctg	agtgaatggt	1080
ttgtcactgc	taagtgggtc	ttttcactgt	actagctctc	acagcgggaa	ggggccatca	1140
caaggcagga	gggagccaac	ttcagcctag	ttctctgttc	caggtccacc	tcaatcctgc	1200

catctacaga agtgaacatt ctgcatgttc ctccttgcta tcttgcttgt gtcttcatat 1260
acatctgaca gaccagatc tgtctgcact tctaaaatca atatttttagt acatcctgtt 1320
ttaaataata ttccatgcat cgccaaaaaa ttatacattt aaaaatcttc taaccaccta 1380
gattttatct tcttatcatt tagtctaata catttgcctt cttcgataca atggatgtaa 1440
tactctgatt agtacaactt aactcaatca aagagaacgc tgctgcatgg aacctttctt 1500
gtgtaactca ttaaattcta aacagtttaa atccttaatc ctgacgtggc acacgggtgct 1560
ctaggatggc ttgctctcga ccagtccatg gccactttac ttataccagt ggttctcagc 1620
taggagcaaa tgtgccccct gtccccagaa aacatccagc actgtccaga gatatttctg 1680
gttgtcataa ctgaggtgag ggggctgcc a ctggagtcta gtaggtaggg accataaatt 1740
ctataatata tggggcagcc ctctaaaaca aagaattaac aagcccga aa catcaatagc 1800
gccaagattg gaaactccac cctgtgccat tacattaaat attcacagaa ctttctgaga 1860
cagaaaatca gggagatact tgctgccatt ttacagataa agaaattgag gctcatgata 1920
agtaaaatag ctttctccat accagaatgt ggatgaggaa caaagaccag ggtactcttt 1980
tcccatactc tcctctcaaa gaagatgggg aagggcattgt gtccgatggc tcctgccctc 2040
gttttcagtt aagaaatgct ttcaaccctc aaatacaaat ctttaacatt caaattagta 2100
acacatgggtt agaagggata atttatactt caattttgag gaaacatttt ttattacatt 2160
cattcattca ttcattcatt cagagatgta ctggggacag atgatccctt cccattttcc 2220
tcccccatga ggaagaagg gcttttgact tgttgccctta actcattcaa tgggaaaaga 2280
ttccattttt cacctacagg cagaggcagc tggaaactcc cagaagtaga ggctcagtct 2340
ctctggaggc tactgaagag caccctgaag ggtgtcaca tcctcagtgt tgggggaaag 2400
ttgggtaagt ttttaccatg aacactggag ggaccagctc ctctcagggt gaaatgagcc 2460
ttgaaggaag gacagaggga atcacgcttg ggcaagtgtt ttgccctcac accaagagta 2520
ccagggaagc agagggtacc agtccaaaca gatgtcagca gctctatctc accaatgaca 2580
gccagaatag caagcaacca ctgc 2604

<210> 693

<211> 3275

<212> DNA

<213> Homo sapiens

<400> 693

ctagagaggg	actcagatga	gagcctgtga	gcttccagca	cttccagtag	cttctgggaa	60
gcatgtttcc	gtcctgaggg	gggttctggc	cagtgcagtg	tccgctacag	gagacttgct	120
catttatggg	ttacaacact	taaggtttct	cttagcacca	acaagagagt	gctttcacct	180
tagcttctat	agagtgagga	gggagaacta	gctaataaaa	acagtgataa	tagtagctgc	240
cattgagtg	ttactccatg	tccttatgca	gattgcttta	tatatctgat	ctcttttaat	300
cctcattta	gtcttcatta	atccccat	aatccatttt	gcagatgagg	aagttgaggc	360
tcagaaagtc	cagaccctgt	agccagaact	aagatacaaa	acaagatctt	gctccaaagg	420
ctgtatcctt	agccacatgt	tatattcacc	tggggagctt	taaaaacaca	tacacagtgt	480
gcagggtcca	ccacagatga	gtttatcagt	tcctggcatc	agctctactt	cctagccatc	540
gccccctaat	tctccaacgc	aaggcgaggc	tcagagccct	ccagggtggc	tcagctggcc	600
ccagagggca	gcagggtggc	ctttcttagc	ctatggaccc	ttacaactct	ccaaacagag	660
taagggccca	gagaaggacc	tagctgcaaa	attgattcca	tgccattccc	ccacccgact	720
cctgcatatc	ctgcttgctg	tcctcacctg	ctaggttctt	ggtggcctcc	tgcatggagt	780
cccccaattt	gcttccctct	gccctgtacc	ctctccctgg	ctttgctggg	cctggccaag	840
tggggccaca	ggagcccgag	ccccctgtga	gaccactac	tgcccagcct	cttactgtgc	900
ttgcatttca	ggcagtggt	tccaagggac	aaagtcctgc	ccttgggtgt	ggaagacacc	960
gtggacaagc	tcaagatgct	ggaaggccgc	aagaccagca	tccgcaagtc	agtgcaggtg	1020
gcctatgacc	gtgcatgat	ccacctgagc	agagtccggg	ggccccactc	cttcgtcact	1080
tccagctacc	tgtaagggca	gggctgggcc	tgcatccgct	tgccctgcct	ccatcccgca	1140
gggcacagag	aagcctcttc	tgcccctgcc	agatgtatgg	ccggcagctt	ccccctctca	1200
tggtaggcca	gggactgggc	tttctcccca	ctaagggcaa	ggccccagtt	ttgaccaatc	1260
gcatggttct	cctggcaggc	ctgctctgtg	ccaaaaactc	ccaccaagg	tccttcaggg	1320
gatatttcac	tgaagaacca	gttagaagta	gaaacagctg	tggggcttgg	gccagctta	1380
ggagattgcc	cagatggcaa	gaggtcctgg	gctccttctt	gaggggctgc	ctggcccgt	1440
ccatcctact	cccactaact	acacctcagg	gcgggtgagg	ttccgacact	gatcccagag	1500
atgccgtgga	tacgccaggg	tcccaggggg	aatctcccca	agctcacact	ctctcccgt	1560

tatcgctat tctcacacct cttctcggtc ccatcttctg caccattgc ccagtcttgc 1620
tttctctttc ccatattcct tttctttttc tcttgtgcc aactgacaga aaccgtcacc 1680
acactggctt ttttctttaa tgtctcattc cccttgaggc cagctgctat gccaggtggt 1740
gtctctgcc aagctctcag gccagacag aggccagccc acaacctatg acccctccc 1800
ccaggacacc acctcccacc cacagacctt ccctttagct gttgacacaa cttcccagct 1860
ctgcaagtgt gccccctgga tcaaggcggg tccccctctg ttttttctt tgctgccacg 1920
aggtgggtcca agccttcagg gtgggctcct atcaggctgg gtgtgcgagt gtccatctgt 1980
ccacatggat gtcgaggggtg gtttgtgtgg agctgtgctc gtcagctggg tctgcctctt 2040
tccccctttt ctcttcttc tctctcatg gacttttctt gcaattgcag tcttaagctt 2100
cactctccac cacctggatg gcatggcgcc tgccaccaa catcttctg gcctgcgctc 2160
tgccctgccc tgcctagcct ctgctactcc cacttcccaa ctccaggga tgcattactt 2220
ttatttcaaa ccctctgcct ctttcttctt ttctcttcaa cccctcccc accttcacct 2280
tctcaaaaat ggaaggaaaa aaaaactgtg aatggggaat gctgactgac aaaccaacac 2340
aactttcaga ggcttcagt tctgttctct ggacatttct tttcacctcc tgagcaccaa 2400
agtcgcaggg ccagttgcag gccgctgatt gccatgttga tttttaacct gatattcttt 2460
ttaattgttt taaatttttc ataggggagt tttggacaaa acagtcactg gggagatcac 2520
tgccattttt acacacttga ctttttaaaa atacaacaa ccaaccacca caacttctta 2580
tacatttggg acatgagcca gagtttaaaa gggaaccaac aaaacactat aacttaaaag 2640
gatgggggttt tggattttgt ataataataa aaacaataca gcatatggct aggggaaggac 2700
atggtgtata taattgtaaa atactgttct aaattattca ggcctatagt ttccattact 2760
ggagtctctc attgtgtggc cacacagtgt cgttgattta aaggagccag tgcttccctt 2820
ctccccaggt agttggtcag ctgtggactc tgtgacctt gtctaaacct gtgttgtaag 2880
atcttgggac ttcctctctt tctatgtcta tctcttcccc ccaacacttt ctcttcttag 2940
tctctctctt tatttttcaa tctctgaata ttttagtctc tctctgagtc tcatttttta 3000
aaatgctctt ttagaacggg aaacggctca gatcctgctg tggcacgggg cctatgtgtc 3060
tctgtcgcgt ctgctgtgaa gcacatgatg ctctatttat thtagagagt gactttattt 3120
gctttctaga attgtttata acagatggta taagagaggt aataaacaga gaaaaatcta 3180
tgcttgtaaa gaatacaaaa gtttaatttta cctactataa tatgactgtc tgaaacttat 3240
tttctctctg agaaataaat gttctaattg gcagt 3275

<210> 694

<211> 2867

<212> DNA

<213> Homo sapiens

<400> 694

ctgtccccgc	cccgttttcc	cagcaggacg	cagccgcctg	gcgtgcggag	agcggcctgt	60	
cgcgcgctgg	gcgcggggac	tcagggtccc	agcagtgggt	cgcgcacctg	agctatctcc	120	
atcctcggag	accgacgagc	tctcagtgtc	ctcgtcctcg	gagctgctcc	cctcattttc	180	
ggcgtagtcc	acctccatct	catcgtgatg	gttgggtctc	ttcttatecc	ctcgggaatg	240	
gactggcatt	ttccagccgc	gccgtcgctt	tccactaccg	gcgcccagcc	cggccaccgc	300	
cgcttcaatg	aagggcgcgc	ggaacgcccc	aaccaccca	gccaccgagc	ttgctcgccc	360	
ccttggctcc	tccccgcccc	cggcccgggc	ctcacaacct	aaccgcagg	ctctgcgatg	420	
ggagctctgc	cattggcgga	ggccttccac	cgagccagag	ggcgggggct	tgccctgctc	480	
tggtacgatt	ggttgcccgc	aattacgacg	cggccttccg	atgcttgccg	ggagtgttag	540	
ttcgtaggtc	tcagacctgc	aggggctgca	cgcttccatc	cctcggcagc	cctgatcact	600	
tcttccttct	ggacttcaag	tcccacaagg	cacgaaagct	gacactctgg	atcgcagttt	660	
ataaactaaa	cagaaacaga	ttgtgcgaat	ttagtctgta	tttatctatt	tcccgccaag	720	
tgattgtttg	acctgcctga	ccatcagaga	tgttactgtt	agatgtgaaa	atgtcttttg	780	
cctaaaagga	tctttgcctg	ctcattgagc	ctggggaact	ggagaaccat	ctgttttact	840	
aagcaccttt	attacctacc	attaataaac	tgttttat	aattattaac	tatagacgat	900	
aacttgcact	ttctgtgttg	tgcaaaaatc	tttaaattat	tcttgaaact	tttacaatac	960	
agaaggtaag	gaagttttat	cttggcattt	tcaatcta	atgtttggca	tttatttttt	1020	
accaa	atgca	gtcggaaaat	gccatcagtc	ctgatttaac	tttagttttc	aatgaaaaat	1080
acatacttaa	ccagatgtac	tttctcaaaa	aaagggtaca	tagctccctc	tccctctccc	1140	
tcgccctcgc	cctcgccctc	gccctctcca	cgggctccct	ctccctctct	ttccacggtc	1200	
tcccactgat	gccgagccga	agctggactg	tactgctgcc	atctcggtc	actgcaacct	1260	

ccctgcctga ttctcctgcc tcagcctgcc gagtgcctgc gattgcaggc gcgtgccgcc 1320
acgcctgact ggttttcgta tttttttggt ggagacgggt tcgctgtgtt ggccgggctg 1380
gtctccagct cctaaccgag aatgatccgc cagccccgac ctcccagagt gccgggattg 1440
cagacggagt ctcgttcact cagtgtctca tgggtgcccag gctggagtgc agtggcgtga 1500
tctcggctcg ctacaaccac ctcccagccg cctgccttgg cctcccaaag agccgagatt 1560
gcagcctctg cccggccgcc acccgtctg ggaagtgagg agcgtctctg cctggccgcc 1620
catcgtctgg gatgtgagga gccctctac ctggctgccc agtctggaaa gtgaggagcg 1680
tctctgcccg gccgccatcc catctaggaa gtgaggagcg tctctgcctg gcagcccatc 1740
gtctgggatg tggggagcac ctctgccccg ccgccccgtc tgggatgtga ggagcgcctc 1800
tgcccagccg cgaccccgtc tgggaggtga ggagcgtctc tgcccggcca cccgtctga 1860
gaagtgagga gaccctctgc ccggcaaccg cccgtctga gaagtgagga gccctccgc 1920
ccggcagccg cccgtctga gaagaacatc tgggtggaacc ccatgatggc ggtcttcac 1980
cgccttaagc tggcccacaa ccatgctgat gatgcagcta tgcggcgtga gctgatggtc 2040
ctgcgcggtg atgctgtgct ggattttctg gaaccgaagg ctagacaact tctccacaat 2100
ggcagctttc ccctggaact gttgtccttc ccacgtaagg catgatgcgt caatgtaaat 2160
tgcgctagt tggggctctat cgttatcaaa taactggtag taatgtggaa tgaagctgga 2220
tcctatctgc tcccaaattg gcttgtctcc cactctggac cgtcagccgg cctcgcggag 2280
acccgagggg ctggcacgat ggctgcagcg gcggcggcaa cccagcacgg tctcaaaatg 2340
ctcatatatt taagtggctc catgcattac gtatgctaca acttgacttt ctccttagtg 2400
acgtttttga gatattacca ttgtgattca ggtagctctc atccagttat ttttacctgc 2460
cataacatgt tccatttagt aaatatattc tattgaatga atattacagt ttacccattt 2520
acctattaat ggacagggag gctgctccca atttttcac tattaaaaac atttgtctca 2580
gaccagcac agtggcttac gcctgtagtg ccagcacttt ggcaggctga ggcaggcgga 2640
tcgcttgaga ttgggagttg gagaccagcc tgggcaacat ggcgaaacc cgtctcaaca 2700
aaaaatacaa aaattagctg ggcgtggtgg tgcgtgcctg tagtcccaac tacttgggag 2760
gttgaggtag gaggatggct tgagcctggg aggtccaggc ttcagtgagc tgtgattgtg 2820
ccacttact ccagcctggg tgacagacag agtaagcccc tgtcttt 2867

<210> 695

<211> 2946

<212> DNA

<213> Homo sapiens

<400> 695

```
aggccatacc agtgtgctgc acagctatcc agagagcggt ggacgagagg tggcaaattgc 60
tgtagtccgt cctcttgggc aggtgttagg tacccttca gtggctggta gtgagaattt 120
gttaaaaact gacaaagaag taaaatggac catggaagta atttgctatg gactgaccct 180
tccattggat ggagagactg taaaatattg cgttgatgta tatacagact ggattatggc 240
tttagtggtg ccaaagatt ctattccatt gccagttatt aaagagccta atcaatatgt 300
tcaaactata ctaaaacacc tacagaatct ttttgtacca agacaggaac agggttccag 360
tcagattcga ctatgcttac aggtcctgag agccattcag aaactggccc gtgagtcac 420
tctcatggcc cgagaaactt gggaagtctt actgttggtt cttctgcaga ttaacgacat 480
acttctggcc ccaccaactg ttcaagggtg cattgctgag aatctagcag agaagttgat 540
tggtgttctc tttgaggtgt ggttactagc ttgtactcgg tgcttcccaa cacctcctta 600
ttggaaaaca gccaaggaga tggtggctaa ctggaggcat caccagcag tggtggagca 660
gtggagcaag gtcatttgtg cactcacttc cagattgcta cgctttacat atggtccttc 720
atttctgca tttaaagttc ccgatgaaga tgccagtctg atccctccag aaatggataa 780
tgagtgtgtt gcacagacat ggtttcgctt ttacacatg ttaagtaatc ctgtggattt 840
gagtaacca gctattataa gctctactcc caaatttcag gaacagttct tgaatgtgag 900
cggaatgccg caagaattga atcagtatcc ctgccttaaa catctgcctc aaatattttt 960
tcgtgccatg cgtggaatca gctgtctggt ggatgcattc ttaggtattt ctagaccccg 1020
atcagacagt gctcccccaa caccctgtaa tagattaagt atgcctcaaa gtgctgctgt 1080
cagtaccacc cccccacata accggaggca ccgggctggt actgtgaata aggccaccat 1140
gaagacaagc acagttagta ctgctcatgc ctctaaagtt cagcaccaga cgtcctccac 1200
ctcacctctg tcaagtccaa atcagactag ttcagaacct cggccactgc ctgcccctcg 1260
gagaccaaag gttaacagca tcttgaatct ctttggatca tggttatttg atgcagcatt 1320
tgttcactgt aaacttcata atgggataaa cagagacagc agcatgactg ccattacaac 1380
```

acaagctagc atggagtttc gacggaaagg gtcacaaatg tccacagaca ccatggtttc 1440
 caatcctatg tttgatgcaa gtgaatttcc tgataactat gaagcaggaa gagctgaggc 1500
 ttgtgggaca ctgtgtagga tttttttag caagaagact ggagaagaga ttctgccagc 1560
 ttatttatcc agattttaca tgcttttaat tcaaggtttg cagataaatg attatgtgtg 1620
 ccatcctgtc ttggccagcg ttattctaaa ctctcctcct ttgttctgct gtgacttgaa 1680
 agggattgat gttgtggttc cttactttat ttcagctctt gaaaccattt tgcctgacag 1740
 agaactctca aaattcaaaa gctatgtaaa tccaacagaa ttgcgaagat cctccattaa 1800
 tatcctgctt tctttgttgc ccctccctca tcattttggc acagtcaa at ctgaggtggt 1860
 cctggaagga aagtttagta acgatgacag ctcttcttat gataaaccaa taacttttct 1920
 gtccctgaag ttgagacttg tgaatatatt aataggtgcc ttgcaaactg aaacggaccc 1980
 caacaacacc caaatgatat taggggcaat gttaaataatt gttcaagatt cagcactttt 2040
 ggaagccatt ggttgccaga tggagatggg tgggtggagaa aataacctga agagtcatag 2100
 tcgcaccaat agtgggtatta gttcagcaag tgggtggaagc acggagccca cgactcccga 2160
 tagtgagaga cctgctcaag ctctcttaag agattatgct cttataacag attcagctgc 2220
 tgggctcctg attcgcagca ttcatctcgt cacccaaaga ctcaactccc agtggcgcca 2280
 agacatgagc atactactgg cagctctaga gctcctctct ggccttgcaa aggtaaaagt 2340
 gatggttgac tcaggagacc ggaagcgagc catcagttct gtgtgcacct acattgttta 2400
 tcagtgtagt cggccagctc ctttacactc cagggatctg cactccatga tagtggcagc 2460
 ttttcagtgt ctctgtgtct ggctgacaga gcacctgat atgcttgatg aaaaggactg 2520
 ccttaaggaa gtactggaga ttgtggaact gggatatctca ggaagtaagt ccaagaacaa 2580
 tgagcaagag gtcaagtaca aaggagataa ggagccaaac cctgcatcta tgagggtaaa 2640
 ggatgctgct gaagccaccc taacatgcat tatgcagttg ctcggcgcat ttccttcacc 2700
 tagtggtcct gcctctcctt gtagtcttgt gaatgagacc actttgatta aatactccag 2760
 gctgccaacc ataaacaagc agctggagcc agagttttat acttcacttt tccaggaggt 2820
 tggactcaag aactgcagtt cttagaccac tgaatttcta agactgttga actccagttt 2880
 gggaactata acacagcaga acagtttgat aggtgggtcac tgtaaaaata aaaacaaatc 2940
 actccc 2946

<210> 696

<211> 3126

<212> DNA

<213> Homo sapiens

<400> 696

tcatctaaag gtaaaaaact cactgttaag agtaagtaca cagaaaaacc caaagtgtga	60
taacattgta actgtggtgt gtaagtagaa agaataaatg ataaaccaat caaaaatagt	120
aactacaact tttcaagacc agtcagaaaa ataagataaa attagaaaca aaaaaagtt	180
aaaaagtggg gggatgaagt taagatgtag agtttttatt agttttttgt ttgttaatgc	240
aaacagtgtt accagggttaa aataatgggt taaaaaatag tatttgtaat ccttatggta	300
acctcaaacc taaaaacata cactggatac ataaaaaata aaaagcaaaa acctaaatca	360
tatcaccaga gcaaactacc ttccctaaag gaagacagga agaaaagaaa gaagaagacc	420
acaaaacaac cagaaaacaa ataaataaca aggcaggagt aagtctttac ttatcgataa	480
tacattgaat ggcaatatgg actaaactct ccaatcaaaa gacatagact ggctgaatga	540
atggagaaaa caagacccat tgatctgttg cctacaagaa acacacttaa actataaaga	600
cacacatagg ctgaaagtaa agagttggaa agagttattc catgccaatg gaaaccagga	660
aaaagagaag gagtattgat tttgatacaa aaactatgag acaataaag tcaactataca	720
atgataaagg ggttaatatg gtttccattt gtgccccacc caaatttcgt gttctattgt	780
aatcctcaat gttggaggtg gggcctggtg ggacgtgatt ggatcatggg ggtggatctt	840
tcatgactaa ttcagcacca tcttcttagt gctgttctca tgatagtgag ttcttctgaa	900
atctggttgc ttaaaagtgt gtagcacctc tccacaccac ccgcttgcct tggcttactc	960
ctgctatgta gatgcttgct cccactttgc attattccat gagtaaaagc tccctcaggc	1020
cttcccagaa tcagatgccg ctatgcttcc tgaacagcct gtggaactat gagccaattc	1080
aacctctttt cttcataaat taacaagtct tgggtatttc tttatagcag tgtgagaaca	1140
gaataatata gaaaatttgg aaagaggagt gaggcattgc tagaaagata cctgaaaatg	1200
tggaaacagc agtggaaactg ggaaatagac agaggttgga agagtgtgga gggctccgaa	1260
gataggaaga tgaggggaag tttggaattt cttagagatt tgttaaattg ttttgaccaa	1320
aatactgata gtgatatgga caatgaagtc caggctgagg aggtctcaga tggagatgag	1380

ggacttattg ggacctggag tgaaggtcac ttttgtagg acattgtggt tggagacatt 1440
gtgccccctgc cctaggaatc tgtggaactt tgaacttgag agcgaagatt tagggatatct 1500
ggcagaagaa atttctaagc agcaaagcgt tcaagacgtg gcctggctgc ttctggtagt 1560
ctgtgctcat atttgtgagc aaagacatga caagaaactg gaacttatat ttaaaaagga 1620
agcagagtgt aaaagtttgg agaatttgca gcctggccat gttgtagaaa agaaaaaac 1680
catitttctgg agaggaattc aagctagctg cagaaaattg caagtaacaa ggagcaaaat 1740
gttgatagcc aagatagtgg gaaaaacacc ttgaaggcat ttcagatacc ttgggggcag 1800
cctctcccat cacaggccca aaggcctagg agggaaaggat ggtttctctg gccaggctca 1860
gggtcctgct gccctgcaca acctcaggaa actgctctcc aaatcccagc tgctccagct 1920
ccagcttcag ctcaaagggc cccaggtata gctcaggctg ctgctccata ggatgcaagt 1980
tataagccta ttggtggctc ccgtgtggtg ttaaattaag cctgtaggtg cacagagtgc 2040
aagaattgag gcttgggagc ctccaactag atttcagagt atgtgtggga aagcctggat 2100
gtccaggcag aagccagctg caggacaga gccctcatgg agaacctcta ctagggtagt 2160
gtggagggga aatttggggt tggagttccc acacagcttc ccctctggtg tactgcctag 2220
tggagctgtg agaagacagc cactgtcctc cagattccag gatgatagat ctgccaatga 2280
cagcttgcac tgtacaactg gaaaagccac aggcagtcaa tgccagtccg tgaaagcagt 2340
gacagtggct taccttgcaa agtcccaggg gctgagctgc ccaaggcctt gggagccac 2400
cccttgacc agtgtgccct ggatgtgaga tatggagtca aaggagacta ttttggagct 2460
ttaagattta atgactacct gctgggtttc agacttgcag ggggtccagta gcccctttcc 2520
tttggccaat ttctcacttt tggaatggga gtgtttaccc aattcctgta cccccactgt 2580
atgttggag taactaactg tttttttatt ttgtaagctc acaggtggga gagacttgcc 2640
ttgtctcagg ttgagactct ggactttgga cttttgaatt aatgctggaa tgagttaaga 2700
ctttgaggga ctgttgggaa gatataactg tattttgag tatgagaagg acatgagatt 2760
tgggagacac cagaggtgga ataatatgat ttggatctgc atccccacca aaatctcatg 2820
ttcaattgta atcctaaatt ttggaggttg agcctgggtg aagaggattg gataatgggg 2880
gtggtttctc atggtttaac accatcccc tgggtgctgt tctcatgaca gtgagtgagt 2940
tattgtgaga tctgattgtt taaaagtgtg tgccacctcc tcccactttc ctctgctcc 3000
agccatgtaa gacaggcttg cctccccctc acctttgtc atgattgtaa gtgttctgag 3060
gcctccccag ccatgcttcc tgtacagcct gcagaactgt gagccaatta aacctcttt 3120

ctctat

3126

<210> 697

<211> 2718

<212> DNA

<213> Homo sapiens

<400> 697

aaagtaattt tctgaaggga agctgcagaa tatggaaaac atatattgga gctacatgga 60
tcatgtcaag ttcagactgt aaggagtaga tgcagtagtg aagctgtcca tctcaggtga 120
attgaaaaag taaagaacta caaaatgcc a cattccctc tctgtgttga tttctggtga 180
agctcagagg atgagtaaga gatacttaca gaaagcaaca aaaggaaaac tgctaataat 240
aatatttatt gtaaccttgt gggggaaagt tgtatccagt gcaaaccatc ataaagctca 300
ccatgttaaa acgggaactt gtgaggtggt ggcactccac agatgctgta ataagaacaa 360
gatagaagaa cggtcacaaa cagtcaagtg ctcttgcttc cctgggcagg tggcaggcac 420
cacgcgagct gctccatcat gtgtggatgc ttcaatagtg gaacagaaat ggtggtgcca 480
tatgcagcca tgtctagagg gagaagaatg taaagttctt ccggatcgga aaggatggag 540
ctgttcctct gggaataaag tcaaaacaac tagggtaacc cattaacca ggagaaatca 600
agtgatcctc aaggctgatg acattgaaca tgcgcataga aacttaactc aactcctgag 660
gtgatcttga agatTTTTAT accacttgaa agaggcgctc aatagtctat ttccaaggga 720
tttcatggcc tcttcttgaa atcaagactt tttaaaagtc agacatgaac ttgcatgtca 780
tgaagatttc agcagatttg aactgtgttc aacttgtaaa ttgttaaaag aatttgaagt 840
cactgtctga ggagctggtg aagagttggt tttctcaggg tgatgttaga gacagtcgcc 900
ttttgagtta ttggctccag atgtgactac ttttcttggt tctgcaagct gtatcccaag 960
tgcactgtcc ttctgtcctg gatgtgttcc tgggtcctat gttcatttgc tagtgggact 1020
acacatggct ttaatgacat ttcctttgag aacttttctt ctggcatggt gtagactgag 1080
acaattttat ttatataccta atcttggagc tcagaaagcc tacatgtttt aacatcttaa 1140
agttgctttt gttaaaggaa tggaaatata tatccattgg taataatgtt ggcaagtaat 1200

agttatctga ataaatcaat catataagaa tgtatagaca agctgacata tttccctaag 1260
 gctaacaaca ccctgccgaa gctctttgtc aaataggtag tagttagaac tggattgcca 1320
 ttttcattat ataatacttt gtacctctag agcactctcc ctttctgttt ttttttaagt 1380
 gagcttttct ttaatTTTTT atgtttactt attcccttca cagaaatcag cagtgagcag 1440
 tcaagttaat gggtagcctt cagtttcaaa aaaattgaca gggatgcatg tgagtttctg 1500
 atttcttagc ttgaacatta ttcacttaga tttcttccag tatTTTTTaa aaaactgtcc 1560
 tatctcattt taaaagactt tcttttgctt gatcccaatg actgtttgaa tgcttatata 1620
 tttgttcaat ctgttgatag aaaaaattgt tcattttcct cagtctcaaa tttataaata 1680
 tttgcttaca gttttcctat tcaaacaatt tgtaggcca atattttgtg acatttttgt 1740
 agcgatttta acgtttatgg ttttggttct acaggaaagt cataaatatt taaaggcctt 1800
 aaacatgtat gtactTTTTT tttctaagtt atagaatgta taattttgta ctacatttat 1860
 tttgtttcat ttgtgatatg aaggagaga agaaagaaaa gtgcatagcc attctgtaac 1920
 aatatttgtt aaacctatag tttgaaggaa tgcaaggaga aggatttctg tgttttactc 1980
 attttaggct gttcagaaga tgcttcaaaa attgtcctgt tagaatttcc atcatgggag 2040
 gtggatatga agaaggatg gaaatacttt gtatcctaaa aactcactga cgtggtcagt 2100
 tagacatacg ttggtttcca ggatggaggc ccatatatcc tggggagctt tgggtctatta 2160
 gtttgtgaca atattcaaag gccaaaacac tactcagaca ctttcctggg aagagcaact 2220
 aaaaatgtaa aattggttaa aaataaaatc tgaaaagtat gtatctcaca ttgaactaaa 2280
 atccactgtc tcataagttc atggaatgaa atggctttct gcctccattt taatcatgca 2340
 taaaatgaat tagatggctt tgagtggatt ttcacaatgg ctcaagacta tatgaaatta 2400
 taaaaaaaaa gttgccctgg ggtttctgca tcaattagaa tatcattaat ttttttgtaa 2460
 ccaagtga aaactatactt tttggaaatt atgaatttgt cctaggtttg tttgagattt 2520
 gaaattatac atcatgcttc tcatttttta aactatgttc tttaaataca cactggaaac 2580
 tctgtattat atacaagtgt aatacatgca tataatagaa aaaaaacatg gaatttcaaa 2640
 tataactaact agattatccc cagtagatta atgttgtgac tattcagaaa aggtgaataa 2700
 aattgggata taaaatgg 2718

<211> 2852

<212> DNA

<213> Homo sapiens

<400> 698

```
gcggagcgcg ggaggccagt tgggaggcgc acatccggcg gttacccggg gcttcataaa 60
gccgcttttcg ccgctggctg tcgccgcgtt ttgcctccgc agcagctctg ggctctttctc 120
agctgcgcga gcagctgctc caatgccccg gaggggccat gggcgccccg cactgggtggg 180
accagctgca ggctggtagc tcggagggtgg actgggtgcga ggacaactac accatcgtgc 240
ctgctatcgc cgagttctac aacacgatca gcaatgtctt atttttcatt ttaccgcccc 300
tctgcatgtg cttgtttcgt cagtatgcaa catgcttcaa cagtggcatc tacttaatat 360
ggactctttt ggttgtagtg ggaattggat ccgtctactt ccatgcaacc cttagttttct 420
tgggtcagat gcttgatgaa cttgcagtc tttgggttct gatgtgtgct ttggccatgt 480
ggttccccag aaggtatcta ccaaagatct ttcggaatga ccggggtagg ttcaaggtgg 540
tggtcagtgt cctgtctgcg gttacgacgt gcccggcatt tgtcaagcct gccatcaaca 600
acatctctct gatgaccctg ggagttcctt gcaactgca gctcatcgca gagctaaaga 660
ggtgtgacaa catgcgtgtg ttttaagctgg gcctctttctc gggcctctgg tggaccctgg 720
ccctgttctg ctggatcagt gaccgagctt tctgcgagct gctgtcatcc ttcaacttcc 780
cctacctgca ctgcatgtgg cacatcctca tctgccttgc tgcctacctg ggctgtgtat 840
gctttgccta ctttgatgct gcctcagaga ttcctgagca aggccctgtc atcaagttct 900
ggccaatga gaaatgggcc ttcattgggtg tcccctatgt gtcctcctg tgtgccaaca 960
agaaatcatc agtcaagatc acgtgatggc aagatgggtg ctggcttctc tgcttatcgc 1020
ccctcatgca gtgggcttcc tttgctagga agacagccaa gggagttcga atagttgggg 1080
tgtgggctat cttttcaaaa atctatttgc tggggctctt aatttcttta gtgttctttg 1140
tatgtaggga tttaaacttt gtcatatggg acaaatatc cctgcccccc tgcagtttcc 1200
catttgtctt tcagtatgtt aatatttttg tgccatactg gttttaaact ttcattgtgt 1260
cacatctgtt aatcttttct ttaggatttc tggattttgt gtaattttta aaaaggtctc 1320
ctcctcctcc ctaatgtgtc tgtggaccac ctggattcca ctgtacaagg ggaaaagtgt 1380
ctattccttt cccaagatg gaaaatggag ggcttaggga cactagatgc atctttctca 1440
```

gcataccttc cagatgcagt gacttggttg gctgctcct taatggccat ggcagagcag 1500
tcccttgggg gatccagccc tgtacaatgc atctcttcct ggagaaagct ggcctgctcc 1560
agaccccacc attcccaggc gcccttggag tggactctac tgatgacaga cagaccctct 1620
gagagacaag accctctgac tctgtgatgg aagatgccag agattttcct ttggggtaat 1680
tgtccttaaa caaaaccaa cagatgaaac acacacagga cttgtggcta aaaaggctag 1740
tttttcactt gcattttctc actaaccag gttttacatg catctgtgaa tccttttact 1800
actacctctg tggagagatg gagagacttc agataaacgt gaagctaata agtaaaaccc 1860
tctctgccaa aacctacact ccactttagg cccttcttga agatgagcac aatttttaaa 1920
tactgagcac aatttttaaa tactgacatc acttctctt cccctccca cccagctca 1980
gcagcctcaa atctacagag aagaagaatt atggcatgaa cattcccaca gaccacccat 2040
ctttaagact tgacctctgt aagtttacca aagggctcct cacaattgtg gtgggggttc 2100
tggttcaaaa tttggagcaa acatgaagtt tttggaaacg ttttctcatt tgaagcctcc 2160
agtatgctgt actattctgg aaattacctt caagagtctc acttcttgtt tctgttgtgt 2220
tttctgtggg catcatgttc ttcacgcttg cagtagaagg tgctttctcg gtttcccaga 2280
gtatccaacg gctcaccttt ctcaagtgtt ggcagtagct atgcactcac gggctggttt 2340
gggtcgctgg tgcagcagcg caaatctgtt gccttctgaa ttttctcac ctaatgtgac 2400
actggctaca atgaatcttc tcttcatcgg gctgaatgaa agattcaaga accatcttca 2460
aggtgcatgg tgggaattat caacctcagg gatactcatt ttaactcagg cgtgtcctgc 2520
tttgaacat tccattgttg ggagagggca ggacaggtgt gttcttctgt gggcaggagt 2580
catgtcactg tcctacatat gtaagagttg ggaaggtgac gatttttgac acatccagga 2640
actcttactc tagttagaat ttgtaccaga tccaaggtga aaacccaat aagcaactga 2700
atttagagtt taaaaatgaa tgactttatg ctacatctgt ggttatcaaa ttatataggt 2760
tgttgagaag cagaacgctg tttgtagtaa gaaatctttg tggaaccca gtgtgtgaag 2820
taaattgtat gttattaaat ttatttaagg tt 2852

<210> 699

<211> 2552

<212> DNA

<213> Homo sapiens

<400> 699

```

acacaacgct cctcagatag ggcactcccc cagcaggggt acagcttggc tccgggacct 60
cgggtcccgcc gaggtctggct tcagtttctg aatttgccca ccagtggctt cgagggccaa 120
gccccccaggc cctgtctggtc caggaggaga gacagctgcc tgcgagcctc ctgcagggcc 180
ctgcgggcga tgaccaggcc atggcagtcg tggagctgct ggcccagaaa ctccagccag 240
ccagcacagc agctgctgcc ggtgcccaga gccaccagct tgtagatctc cttcacgtgg 300
cccctggcac gcgggatctc tgtgcaggag ggggcagaga cggcccagcc taaggcccag 360
tatggcgagc gctcgtccaa caggaggtca aagccggcgc tcaccaacgc tgcgcagcgc 420
tgctcatggg tcaggatgtt ctctgcgcca gggcgagaga ctgcaggtga cgtcctgatg 480
ctcagatggg ttgtacagca acccacctcc tgctcacacg cacagccact tccgcctccc 540
cacgggactg ccagcctcag tcctcttgtc cccagctgcg gctcagctgc ctggccctcc 600
ctccattacc tgggttctcc agctgactcc ggatgtagca gagggcagag agcgctgcct 660
gctgtttggc ctccgtcttg ctattcgcag tgcccgcagg gcagaccacc ccatccagtt 720
ccgcgctcac cgagaagggg aagcaggagc ctggggaagg agccaggtga ggaagcagcc 780
ccctggcctt cgccctgtga cagcaggctc tatgccacc ccatgccgag cacacccttg 840
agtgcctctg caggctgtga cccatcgctg attcaaccaa gtcctcacc aactcctcca 900
cagcagggat gcgtgactcc atttcacaga tgagcagaaa cggcaggcgg tttgcccac 960
ttgagtcagg acccaaatcc aggtcccctc tccagagccc acgccaccct gttctcagga 1020
ggaaggctct gagcacttcc acctgccaca gacacattgc tttcaattcc tctcctccag 1080
gggctctata tttgaacact tttcctatga aacagtatca ttttgggtgt tacttataac 1140
acaaaagaga gatgaaaaat ctggaactgg gatcacatgg tcaaaggtgc agggttaatt 1200
tcacagtact tgctgctaaa ttgtttctcc caaggactgc ccctctgggg gtttcctttt 1260
tggaaggga cccatttcag cactccccac tgcgctgaga tctgtctgct ctaaacaggc 1320
atcaaaacca gcaaccacag acagacgtgg aagggatgtt ggccttagaa agccagcatg 1380
tggctgcat cctaacagcg actgaatctg gggagaacca tcaaagcatg attttctaaa 1440
accacaagtg acaatgttat agggacagga tatctacatg atctccaaat gcctcccctg 1500
gatgacttat tcagcacaaa ggagaaagtg aagacacctg gtagatgcca ccctagtcaa 1560

```

atccccacag ctcgcatcgc caggggacaa agcaagatcg cacacttcct ggtgagatgc 1620
 gtgccaaaga ctcgacatca cttcaataac acatcacctg aactcagttc tgaggaaaca 1680
 gacaaaccca agctgaagga cattcgcaaa actactggcc cttactcttc aaagacatca 1740
 atgttgtgaa agacaaagac aggaactggt tcaggtgaa gattaaagag gcatgacagc 1800
 taactgtaat gtcatactgg gatgggaaac aatggccatg aggtcattac tgggacaact 1860
 ggcaaaattt gaatgtgaat agaaattaga agatgggtatt atatcaatgt taaatttcca 1920
 ggatttgata attgtattgt agttacataa gagatgccct tgtttttaag aaatatagat 1980
 gaggccgggc acagtggctc actcctgtaa tcccagcact ttgtggggct gaggacagga 2040
 actcaagacc agcatggcca acacggtgaa accccatctc tattaaaaca caaaaaaatt 2100
 agctgggcac gggggcacaa gtctgtcatt ccagctactc gggaggctga ggcgcaagaa 2160
 tcgtttgaat tcgaaaggca aaggttgcag tgagttgaga tctcaccact gcactccagc 2220
 ctgggccaca gagcgagact ctgtctcaaa ggaaaaaaaa aaagagggtt gggcaagggtg 2280
 gctctaacct ataatcccag cactttggga ggccaaggcg ggcggatcac tagaggtcag 2340
 gagtttgaga ccagcctggc caacatggtg aaaccccatc tgtactaaaa atacaaaaat 2400
 aaattagccg ggcttgggtg ggacacctgt aatcccagct actcaggagg ctgaggtggg 2460
 agaatcactt gaacttggga ggcagagggt gcagtgggct gagatagtgc cactgaactc 2520
 cagcctgggc cacaagagtg aaactccatc tc 2552

<210> 700

<211> 2796

<212> DNA

<213> Homo sapiens

<400> 700

gattgcaggc caccacttca ttacatggg gtgagcacca atgcgttttg ttcaattctt 60
 tgttcaaaac cccaagaatc tggacaactt gcactcaaga ccctctacgg gtttggcgag 120
 ccagtctttc agtggctggt ttctagtagc tccttggcaa ttgaggggaa ctggctggga 180
 ccactctcca gtgctgtctg aaggccaagg agtgaacagg gatggctgcc ctgccttgaa 240

gaggggaagga ctcttttcta tcctttccag ctatagtcct tgatccctac atgtgatgcg 300
gttggcagcg gaagctcatc ctgggcgaac tcacacactt ttcaggagac ttaaaccctt 360
tcttatgcta agttcttccc tttccctact catctggcta aaggacagac tatgcaaaaa 420
aggttataca agtcagaggg tctgagcatg tcggaggtgg tctgtgtggg gcatgggggtg 480
gggggaaaaat tcatgaaagg caattttattg cctaaattta aagggttaaa gggttgcttt 540
aagtgggata gaaaaacctt aaggaaagtt catagtaggt cctcagtggg ggagtgttgt 600
gggaagtcag ggaccctgaa tgaagggact ggctgaagcc atggcagaag aacataaact 660
gtgaagattt catggacatt tattagttcc ccaaattaat acttttataa tttcttacgc 720
ctgtctttac tgcaatctct gaacataaat tgtgaagatt ttatggacat ttatcacttc 780
cccaatcaat actcttgtga tttcctatgc ctgtctttac ttaaatctct taatcccgtc 840
atcttcgtaa gctgaggagg atgtatgtcg cctcaggacc ctgtgatgat tgtgttaact 900
gcacaaattg tttgtagagc atgtgtgttt gaacagtatc aaatctgggc accttaagaa 960
caggataaca gcaacgttca aggaacaagg gagataatct taacgtctgg ctgcctatgg 1020
gccgggcaga acagagccat atttctcttc tttctaaagc aaataggaga aatatcgctg 1080
aattcttttt ctgagcaagg aacagccctg agaaagagaa tgtgtgccta ggggtagtcc 1140
tccaaaatgg ccactctggg gacggttgtc ttttatggtc gtagataagg gaagaaataa 1200
gccccggact cccatagtgc tcccaggctt attaggacga ggaaattccc acctaatataa 1260
ttttggtcag actggttgtc tgctctcaaa ccctgtctcc tgataagatg ttatcaatga 1320
caatgcgtgc ccgaaacttc actcgcaatt ttaatttcgc cctgggtcatg tgggtcccgtg 1380
atctcacctt gcctccattt gccttgtgat attttattac cttgtgaagc atgtgatctc 1440
tgtgaccac accctattca tacactccct ccccttttgg aaatcactaa taaaaacttg 1500
ctggttttac ggcttagggg gcatcacaga acctgccgac atatgatgtc tcccctggac 1560
accagcttt aaaatttctc tctttgtact ctttcccttt atttctcaga ccagccaaca 1620
cttagggaaa atagaaaagg acccacgtga aatatcaggg gctgaatttc cccgatagt 1680
ggagggaacc atcccaaagc agtgccagcc cccatctaag gtcagagaca tctgacagac 1740
taaatacaggg ccctaaagta gggacgcccc tggggacccc agtctgggtt cagaattttt 1800
tcagggggat gccctgggta aagtttgggt cacctaagtg gccctctact tttcaaagtc 1860
ctcttctctg ttccagacca ctatgggcaa ctctctatct attcgacctg attccactat 1920
gggcaattct acacctgttc caccggattc ctcaactggc tacatcatcc accattggaa 1980

tcaatttgac cctgacactc taaagggaaa atgtataatt tttttctgta atactgtttg 2040
 gccccattat gagctgccca gccccagca atgggcagtc agtggttagcc ttaattatga 2100
 caccatcctg caattagacc tactttgcaa gaggctggga agatggtcag aagtcccata 2160
 tgtacaggcc ttggtgtgtg atgttccctt ccctgtgtcc atgtgttctc attgttcacc 2220
 tcccacttat tagtgagaac atgcggtgtt tggttttctg ttcctgtgtt agtttgctga 2280
 gaatgatggt ttccagcttc atccatgttc ctgcaaagga catgaactca ttctttttta 2340
 tggttgcgta gtattccatg gtgtatatgt gccatatttt ctttatcccg tctatcactg 2400
 atgggcattt gggttgggtc caagtctttg ccatggtaaa tagtgttgca gtaaacatac 2460
 atgtgcatgt atctttataa tagaatgatt tataatcctt tgggtatata tccagtaatg 2520
 ggattgctgg gtcaaatggt atttctgggt ctagatcctt gaggaatcac cacactgtct 2580
 tccacaatgg ttgaactaat ttacactccc accaacagtg taaaaatgtt cctacttctc 2640
 cacagcctca ccagcctgtt tcctgacttt ttaatgatca ccattctaac tgggtgtgaga 2700
 tggatatctca ctgtgatattt gatttgcatt tctctaacaa caagtgatga gcattttttc 2760
 atatgtttgt tggctgcata aatgtcttct tttgag 2796

<210> 701

<211> 2418

<212> DNA

<213> Homo sapiens

<400> 701

gaaatgaaag cccggaacc ccggaactag aactggtagt gagtctcact ctgtcgccca 60
 ggctggagtg tagtagcgca atcttggctc actgcaacct cggactccca gatctcttca 120
 actacctgtg aaaactgatg tgatgaaaag gggaatttga aggagccatt ccagaagaca 180
 gggcgaaaac tgaagtgcaa tcagggccaa gaaaaacaga aatagcagga cctggagttg 240
 gcagccttgg catggtcagg ttggcacctc tggaggtgcc caggctttcc ctggcagcat 300
 tgtgagcagt ggatggtgtt gaagggcagc cagaggagga atggaacaca tgctccttgc 360
 taaccacacg gacaaggcca cgttcacagg tacacaaagg caacgcagtt gctcaggtgc 420

ttcggatatca cagccaagac cccttcgggg gaagctagtc ggatactggg acccacattc 480
cagactactg agccgcggtc gcgccctcgg ctccgtttct gctccctcca cccacgagg 540
acgggggtgg aaggccacct tcgatgggtg catcctccac gatgacctgc taacaaaggt 600
gcatggattt cagagtctga ttggcctaca acagcatttg gcttgtggag acagtggttc 660
cctgatgaaa aactgccatg atgtaaggaa gagcctgtca gagcgaggct ggggtgctgc 720
gtgttgggga ggtggaggtg tggcttcccg ggagaagctc caccgcctgg ctgagtctgg 780
cacataaacc agtctgtgag gggatggatg tgggtgtaat gggggcaatt acagtaggaa 840
ggagcccacg tggagcctgc attctctggg acagggcatt actgcattct ctgggacagg 900
ctaaggccca gatcctacct tcccaggctg ctggatgggt catagatgta tgaaccggtc 960
ccctcatttt ctgattgccc tgtgcttaac gtttctgtac ctttactgag gctctttcct 1020
ccaactccag tgctcagacc ccccttctcc tgaacatgaa tgcctgtcca tggaaattcg 1080
agtctctctc tctcaccag gctggagtgc agtgatgcaa tctcaactca ctgcgacctc 1140
tgctcccag gttcaagtga ttcttgtgcc tcagcctctg gagtatctgg gatcgcaggt 1200
gcgtgccacc atgtctggct gatgttttgt atttatagtg gaggtgggtt tcgacatatt 1260
ggccaggctg gtcttgatct cctggcctca aagtgatctg cccacctggg cctcccggat 1320
tgctgggatt acagttgtga gccaccacac ccagcctgtc cctgaaattc taatgaaatg 1380
tgcgataaag ttgttttgtt tttctttttg ttttcccttc ttggcaaagc ctgggtgtttc 1440
tatttttagtg gatttgctg gactgagga ctgctatggg ggtcttcaga ggctcctggt 1500
attgactgct tgtgaaaccg cttttgcaaa attatgactg agacagtga agagatctaa 1560
cttaaccgac ccaatcttgc ttctaacctc caaattgtcc ttattcattc ctgagcatag 1620
cctgaactaa ctttgggaga agcttagttt atattttatt ttatagtta aaacaaagat 1680
gttaacagcc ctttcccaag gcagacttcc ttcttgcctg gggactaggt tgcctttgga 1740
ggactaacat tagccacgag attagaaatt atgggctggg cctcgtggct caccctgta 1800
atcccagcac tttgggaggc cacggcaggt agatcacctg aggtcaggag ttcgagacca 1860
gcctggccag cgtgggtgaaa ccccatctct actaaagaat gcggaaatta gccggttatg 1920
gtggcacatg cctatactgc cagctgcttg ggaggctgag gtgggaggat cgcttgaacc 1980
tgggaggcgg cgtggaggtt gcagtgagcc aggatcttgc cactgcactc cagcttgggc 2040
gacagagtga gactctgtct caaaaaaaaaa aaaagttag aaattatgct ttaggagtca 2100
tgcagctgga ggctacaaga ttctgacctt ccctaaactg ctccctaagat cagtgccttga 2160

gatattttgc agaccctgca cttgatggat cagctggcac caccagact gattaactgg 2220
ctcatgtgat cttgtggtcc ccaccagga acttaatcag cacaaggaga cagcttcaac 2280
tccctatgat ttcacccctg accaatcage actcctgggc tcaactggctt cccctaccc 2340
accaagtgtt ccttaaaaag tctgctcccc aaatgctcgg gtagactgat ttgggtaata 2400
ataaaactcc ggtctccc 2418

<210> 702

<211> 3014

<212> DNA

<213> Homo sapiens

<400> 702

ctgtgctgtc tgactccaga gccggtgctc atgacgagtg tcaggcatcc gcagaggagc 60
cttcggaagc agagtgtgct gtcctgcact acagcggggc ttcagggaga ggccacactt 120
gggcgttggc ctgtgtggac gtggaggaag ccactctgtg aatctgaaga accattatit 180
gagttctgca ccacgcaaac cagttcaccc agggaaggcc cagaggcagt atgttattcc 240
gggtcttggg cttctaaggt tacaccttcc agtcctgggc accacctcgg agtgaggcca 300
gagtccaggc ctttctcccc cttgcagggg catctctgag gccggagtcc aggcccttct 360
tcccctgcgg ggggcctctg caactccac tcgggcctct ttcctcccag agatggggca 420
ggatagaaac cagcgtgtgt gcagacggcc atcttagctt ccattcaacg gctctgaccg 480
aacggggaag gccagggtgt tactgattca gataacttct gagagtacag aagagtttcc 540
tgaggatggc gtggccatgc tgcctgtacg taaaacagga cttgacagtg atctggacgg 600
agagaatggg acaggggaga gctcgtgtca tctgaattct ggttcgcac caccctaagg 660
acagctccca tcaggcgtg tcgcctcggg cttcaggact gtgtctcctt tgtcttcgtg 720
ctcctcattc cctgcactta gtacgtactc agcaaatgag gtgaaattca tctctccagt 780
ggagtcctct tgtgatgcac tgaaaattac agtcatggac cgtcttccaa aacagaggca 840
ttctaccttc ccccgtttcc atgaaagaag gcatggcttt gagatgcctg gccagcgctc 900
ttctcagctg atggcatgac tggctcctcc agccagttag cttgcctcca tgagaagcag 960

gtttcgtgtg taactatcca gccagccacc tacctgttac agcgggtgaag ccagctgggc 1020
atctgctctg cactctgctg ggtgctgggt gcagagctga cgtgatcagt gtccactgcg 1080
aacagcaagg agacagtcag aggcacgat gcagcctcca cgtcgcacgt tcccggctag 1140
gtacgtacat agtgatgtga ctgtatagaa ggcaagtcag agaaagtctt caaagaagat 1200
gtgacatgag acctgggcca gacgggcgac gagggacagc atcagcaagg acccctcagt 1260
gccaggcccc caggctcagt gggaaacaac tgcccgtgag atggggctgg ggcgttgctg 1320
gcggcgtgta ttggtgttac ctgggaaagt tcttcctcct ttggtggctt ggatcaaata 1380
tcacttctgc aagtccatt acgccaggc agaaatggct tttccctcct cagggtctcc 1440
ttgctgttct acatgcttcc ctttgcgcac ctgcgacgta actcctggct tgtgtccatc 1500
tcctggcaag actgggaacc cttcagggc aggtggggc cctgtgttgg tcctctgtgc 1560
tgtgacacca gcacagtgcc tggcacacac aagatggctc tgtaggtgtc cagctgctta 1620
atttcactca gaaggggaca gagaacgtca gtcaccata ttagcctctg gctctcctga 1680
agctggccga cgttcccagc tgtctttcct tcagagcctg gagtgtgggt attgtggcat 1740
gcagaatcta gagtgggtac catggttgcc tcctgcctgt tctgatttcc actgtgtgaa 1800
ggaagcccgt gaccttggct gaagcagcct gtgctgctac cagctgggtg gtccgtgtct 1860
tcctgctgtg gcaaatagga agagtaccac catcatctgg gccagtggc tggtttttat 1920
ttttattagc aacaatgcc cttagaagc agctgaacat gctggctaata tagagccaga 1980
aagaacagct tagcagcaag tgcactaaaa tggaaattgc acttggcctc cactcagcgt 2040
gtgcaagtgg tcagcactaa atagcgccat ctactaggctc tgtccctccg gctacttggg 2100
agacactcca cagccagctc ctctggcag gctgactggg atgccattct cctggaagcc 2160
ggggatcctg caggggccaa acccatatgg tttagtggcc gaggcaggca cttgatagcc 2220
tctgccctga cgacattcct gccactgcag aagggcctct tccgagctct gtggagcaga 2280
gcctggggct tgaactgagc ctgcacccat gtacgggact caaggtgcat ctctggatgg 2340
gagatacacg tggccctctg caggcatgcc agggtttgcc tctctgagaa gtttgatggg 2400
tctcctgtcc cagggtgcctg tttagtaagc ctgggactca gagaggggca gtagtgtcct 2460
aggcctgggt caaggcacc accctgggtgga ttgaggaggg cagagggtca ggccagggtg 2520
cggatgaggg aagcctgggg gatccctgca ttgagagagt gcagggattc ttgatggctt 2580
gacagtgggg accctgtgac caggctgaga attctgttga ataataaaag catttggccc 2640
actctctaaa atgcttatcg attatgatca aaaatgatct ttctttgaga ttattatgat 2700

cctgtggagg gagactgtca ggtaagaatt gtgaaagact ttgcagtgtg ccataaaaag 2760
gattactgag tgtctcatct agcgcccttc agggttatct gattcgatag ggacccgcgc 2820
tttccatcgt ctttgggcta cttatctctg taaattgtag aaatcttata gtagtgcact 2880
ttgagtaatg caaatttctt ttccaaagaa atgcaaataa atgcaaattt tatcctgtag 2940
aatataaata tggctattgc tctgcagata ctgacccggt ttgcatctat ttataaattc 3000
atttttgcac tate 3014

<210> 703

<211> 3272

<212> DNA

<213> Homo sapiens

<400> 703

aaatctatcc catcagctca gtagcaaagt ggggaccaac cctgacaggt tgctattcca 60
ttgcagggtg cattgcaacc acacacacac ccatagtcgt tcagactgag atcatttaga 120
catgctaagt aacctaacat acacatcttt gggatgtggg aggaaattga agtgcccaga 180
gaaaaccac acagacttgg ggagaatgtg cagactctac acagaacagt aaccccaact 240
gggaataatt ttttttttcc ttctcagtgt tttaacgaaa caatgtcgaa caaaagatgt 300
tatttgagga tctgctgtgt aaaaggaatc ttgtgtagag atataataaa cctctgaaat 360
ttttaactct agggatgttt ttcaaatca atttatagca gtttatgaaa acatgcaaaa 420
aaaaaaagct ttatgaagag ttgtacccta taaattttta ttgaggggaa taactgtggt 480
tttgaccagg agttccttac tcattgatga ccacagtcta ctactacgtg gaaccttaat 540
ctcagccttt ttgatgatg cccaagttaa tatttatatt gttttgttca tgggataata 600
tatgcaaat gactttataa actaaagctt tggagttag cctgagttcc agtgatgggt 660
cttagctctt catggttctg ttcttagcta ttgactgcag gtaagttgct taatttttct 720
gtatctgaga taaggaatac taatatgggt gaattttttt aaatgtgttt attgcctgtt 780
tgcttatttt ttattgtgg agttaagcct tctaattttc aagaattaag agttcattgt 840
tatgtgctat acgtatttat tccccttgat tatatttctg tacctactta cttttttatt 900

ttagattctg gtcacttcta ttccgaaagt tagttatgaa gtacaatcca ggattaaggt 960
ggcatctaaa tttggttaat ttctgtgcta ccttttatgc tattagtcta aatcattaag 1020
aaagcattta agaaactttt gtaagcgttt cttttttttc ttgtcatatt tgggaatagg 1080
ataaatagct taaaatagtt gagctgattt ttatttgtat tcttttttta ttataaagaa 1140
acatttgcta ggaaataagc tggatataaa catagttgta tctcctttag tgctaccag 1200
cactaaaaac ttagacacgt atagggctga gcagctggta taatagagt ggctccgtct 1260
cattttctaa gcctgtgagt cctagctgcc tactgcagct cgatttgagt gggagttgat 1320
ataatgtctt tttttttttt ctcacttcag cagtaagtat ctggtttgct catagtcttt 1380
tgattaatag gtagtttgaa tttttttcaa agaatcagcc aacatgtgat ttttttaag 1440
atttaaatac cagatagata ttaaaatgca aggttattgc tactagatat tacatctagc 1500
taaatacaacc attgtgaaat aattgagaag tagagataat aaagacataa accaataaat 1560
ctttgcttga aatcacagg tatgggaaca gattgtgagg acagaaaaat aaaaagtaaa 1620
aagaaaaatc ataggtaata agtgtctaaa gggtttcttc ataggaacag tggttgttga 1680
cccaaataag gacaaatagg actcccatgt tcaagaacac atcaccgttg ttaaaaaggt 1740
ctgccattat taaatagtgc aatgaagaac catttagact ttattagagt ccacgttatt 1800
ggcaaaagat gttggatatt catagaaaat caaacttgac aaattccaaa agtgtctttc 1860
agctctggaa caaaagatgt catatagttc cttgctacca aagagtittgt tcatatggta 1920
atagaggccc atacctttag agggcaaata cagtgcctta ggaaggactt agatgatata 1980
aatggtatit gtcccttttc tcatTTTTat ttactgattt tcaactcact tggcttttaa 2040
tgaacattag cgttacttat ctgttggcag ctgggttgga aaacatttgt ttttctagac 2100
tttatgaaat ggtagccact ggtgttgac ttaatgttta ttgccagtta gttctctgca 2160
gttaatccac agcagaggaa tcacacttct aaaatggttc attctcttct tcatagacat 2220
ttaaagtga acaaatactt tcttgtatat tgttactctg tttggatgga gagggaatgt 2280
atatgtatct taaaatatt tctctttgcc acattaaaca tgcctttttt ccgtgtgtgt 2340
gtgtgtgtgt gttttcaggt cagatgtacc aacagtacca gcaacaggcc ggctatgggtg 2400
cacagcagcc gcaggctcca cctcagcagc ctcaacagta tggatttcag tattcagcaa 2460
gctatagtca gcagactgga cctcaacaac ctcagcagtt ccagggatat ggccagcaac 2520
caacttccca ggcaccagct cctgcctttt ctggtcagcc tcaacaactg cctgctcagc 2580
cgccacagca gtaccaggcg agcaattatc ctgcacaaac ttacactgcc caaacttctc 2640

agcctactaa ttatactgtg gctcctgcct ctcaacctgg aatggctcca agccaacctg 2700
 gggcctatca accaagacca gggtttactt cacttcctgg aagtaccatg acccctcctc 2760
 caagtgggcc taatccttat gcgcgtaacc gtcctccctt tggtcagggc tatacccaac 2820
 ctggacctgg ttatcgataa ggaggctcct ctacaccaat taatgtagct gctagctatt 2880
 ggctcccaa aagactccag tactatitta atttgtattg aagaagttca gaaatttaaa 2940
 agcagagcat ttttatgat atcattgttg gtgttaattg aaagtataat ttgctggaac 3000
 acaaagacca aaatgaaagt ttttccctcc ctgcttaaaa atctagcagc ttcttagtta 3060
 ctttgaaca ctactcttac atgtataaag tgattgactt gactttctag cttcccttgt 3120
 ccggaggata ttaaaatgct aggggtgaggt ttagccatct tacttggtt tttactatta 3180
 acatgatgta ctaaagtaga gccctttgag aatacaagat attatgtata aaatgtaaca 3240
 ctgatgatag gttaataaag atgattgaat cc 3272

<210> 704

<211> 2894

<212> DNA

<213> Homo sapiens

<400> 704

atttgctttt cgcttcgcgt aggggtgaagc tgtagctact tcggctttgg tgggagggag 60
 gaggggtctg gaaagggtcg ggctcaggct ttccccgtcc ggtagagggt ctcgcgggat 120
 cgcgcggagg cggcggtggc tcggttactg actgcagcag cctgacctga gtgggttagt 180
 gatccagaga aaccagcagg ccaacttggc caggaagggt cgggaagctg ttggagcagt 240
 gtggggaatt tcccaccagg atgagtatga ttggctgtga ttttagatcg taaagctgaa 300
 aattgaaatc atgaaagtag acaggactaa actgaagaag acacctactg aggctcctgc 360
 agactgcaga gccttaatag acaaaactcaa agtttgtaat gatgagcaac ttctcttgga 420
 actgcagcag atcaaaacat ggaacattgg aaagtgcgag ttatatcact gggtggacct 480
 gttggaccgc ttcgatggaa tactggcaga tgctggacag acagtggaga atatgtcatg 540
 gatgctcgta tgtgataggc cagaaagaga gcaactgaaa atgcttctct tggctgtgtt 600

gaacttcaca gccttgctca ttgagtacag cttttcccg g catctgtaca gttccataga 660
gcatttgaca actttattgg cttcctctga tatgcaagt ggtgctggaag tagccgcagg 720
catggcgggc gctatgccgc ttgctctgct cgtcctgttg ctccctggggc ccggcggtg 780
gtgccttgca gaacccccac gcgacagcct gcgggaggaa cttgtcatca ccccgctgcc 840
ttccggggac gtagccgcca cattccagtt ccgcacgcgc tgggattcgg agcttcagcg 900
ggaaggagt gttccattaca ggctctttcc caaagccctg gggcagctga tctccaagta 960
ttctctacgg gagctgcacc tgtcattcac acaaggcttt tggaggacc gatactgggg 1020
gccacccttc ctgcaggccc catcaggtgc agagctgtgg gtctggttcc aagacactgt 1080
cactgatgtg gataaatctt ggaaggagct cagtaatgtc ctctcaggga tcttctgcgc 1140
ctctctcaac ttcactgact ccaccaacac agtcactccc actgcctcct tcaaaccct 1200
gggtctggcc aatgacactg accactactt tctgcgctat gctgtgctgc cgcgggaggt 1260
ggtctgcacc gaaaacctca cccctggaa gaagctcttg cctgtagtt ccaaggcagg 1320
cctctctgtg ctgctgaagg cagatcgctt gttccacacc agctaccact cccaggcagt 1380
gcatatccgc cctgtttgca gaaatgcacg ctgtactagc atctcctggg agctgaggca 1440
gaccctgtca gttgtatttg atgccttcat cacggggcag ggaaagaaag actggtccct 1500
cttccggatg ttctcccgaa ccctcacgga gccctgcccc ctggcttcag agagccgagt 1560
ctatgtggac atcaccacct acaaccagcc ctgcctttgt gtccccagga caacgagaca 1620
ttagagggtg acccaccacc gaccactaca tatcaggacg tcctcctagg cactcggaag 1680
acctatgcca tctatgactt gcttgacacc gccatgatca acaactctcg aaacctcaac 1740
atccagctca agtggaagag acccccagag aatgaggccc cccagtgcc cttcctgcat 1800
gcccagcggg acgtgagtgg ctatgggctg cagaaggggg agctgagcac actgctgtac 1860
aacaccacc cataccgggc cttcccggtg ctgctgctgg acaccgtacc ctggtatctg 1920
cggctgtatg tgcacacct caccatcacc tccaagggca aggagaacaa accaagttac 1980
atccactacc agcctgccc ggaaccggtg caacccacc tcctggagat gctgattcag 2040
ctgccggcca actcagtcac caaggtttcc atccagtttg agcgggctgt gctgaagtgg 2100
accgagtaca cgccagatcc taaccatggc ttctatgtca gccatctgt cctcagcgcc 2160
cttgtgccc gcatggtagc agccaagcca gtggactggg aagagagtcc cctcttcaac 2220
agcctgttcc cagtctctga tggtcttaac tactttgtgc ggctctacac ggagccgctg 2280
ctggtgaacc tgccgacacc ggacttcagc atgccctaca acgtgatctg cctcacgtgc 2340

actgtggtgg ccgtgtgcta tggctccttc tacaatctcc tcacccgaac cttccacatc 2400
 gaggagcccc gcacaggtgg cctggccaag cggctggcca accttatccg gcgcgcccga 2460
 ggtgtcccc cactctgatt cttgcccttt ccagcagctg cagctgccgt ttctctctgg 2520
 ggaggggagc ccaagggtg tttctgccac ttgctctcct cagagttggc ttttgaacca 2580
 aagtgccctg gaccaggtca gggcctacag ctgtgttgtc cagtacagga gccacgagcc 2640
 aaatgtggca tttgaatttg aattaactta gaaattcatt tcctcacctg tagtggccac 2700
 ctctatattg aggtgctcaa taagcaaaag tggctcgggtg ctgctgtatt ggacagcaca 2760
 gaaaaagatt tccatcacca cagaaaggct ggctggcagc actggccaag gtgatggggg 2820
 gtgctacaca gtgtatgtca ctgtgtagtg gatggagttt actgtttgtg gaataaaacg 2880
 gctgtttccg tgggt 2894

<210> 705

<211> 2946

<212> DNA

<213> Homo sapiens

<400> 705

gttcgcggct gcaccgctcg gaggtcgggt gaccgcgcta gaagtgaagt acttttttat 60
 ttgcagacct gggccgatgc cgctttaaaa aacgcgaggg gctctatgca cctccctggc 120
 ggtagttcct ccgacctcag ccgggtcggg tcgtgccgcc cctcccagg agagacaaac 180
 aggtgtccca cgtggcagcc gcgccccggg cgccctcct gtgatcccgt agcgcgccct 240
 ggcccagacc gcgcccgggt ctgtgagtag agccgcccg gcaccgagcg ctggctgccg 300
 ctctccttc gttatatcaa catgccccct ttcctgttgc tggaagccgt ctgtgttttc 360
 ctgttttcca gagtgcctcc atctctccct ctccaggaag tccatgtaag caaagaaacc 420
 atcgggaaga tttcagctgc cagcaaaatg atgtggtgct cggctgcagt ggacatcatg 480
 tttctgtag atgggtctaa cagcgtcggg aaaggagct ttgaaaggct caagcacttt 540
 gccatcacag tctgtgacgg tctggacatc agccccgaga gggtcagagt gggagcattc 600
 cagttcagtt ccactcctca tctggaattc cccttggtt cattttcaac ccaacaggaa 660

gtgaaggcaa gaatcaagag gatggttttc aaaggagggc gcacggagac ggaacttgct 720
ctgaaatacc ttctgcacag agggttgcct ggaggcagaa atgcttctgt gccccagatc 780
ctcatcatcg tcaactgatgg gaagtcccag ggggatgtgg cactgccatc caagcagctg 840
aaggaaaggg gtgtcactgt gtttgctgtg ggggtcaggt ttcccaggtg ggaggagctg 900
catgcactgg ccagcgagcc tagagggcag cacgtgctgt tggctgagca ggtggaggat 960
gccaccaacg gcctcttcag caccctcagc agctcggcca tctgctccag cgccacgcca 1020
gactgcaggg tcgaggctca cccctgtgag cacaggacgc tggagatggg ccgggagttc 1080
gttggcaatg ccccatgtctg gagaggatcg cggcggaccc ttgcggtgct ggctgcacac 1140
tgtcccttct acagctggaa gagagtgttc ctaaccacc ctgccacctg ctacaggacc 1200
acctgcccag gcccctgtga ctgcagccc tgccagaatg gaggcacatg tgttccagaa 1260
ggactggacg gctaccagtg cctctgcccg ctggcctttg gaggggaggg taactgtgcc 1320
ctgaagctga gcctggaatg cagggtcgac ctcccttcc tgctggacag ctctgcgggc 1380
accactctgg acggcttcct gcgggcaaaa gtcttcgtga agcggtttgt gcgggccgtg 1440
ctgagcgagg actctcgggc ccgagtgggt gtggccacat acagcaggga gctgctggtg 1500
gcggtgcctg tgggggagta ccaggatgtg cctgacctgg tctggagcct cgatggcatt 1560
cccttccgtg gtggccccac cctgacgggc agtgccctgc ggcaggcggc agagcgtggc 1620
ttcgggagcg ccaccaggac aggccaggac cggccacgta gagtgggtgg tttgctcact 1680
gagtcacact ccgaggatga ggttgcgggc ccagcgcgtc acgcaagggc gcgagagctg 1740
ctcctgctgg gtgtaggcag tgaggccgtg cgggcagagc tggaggagat cacaggcagc 1800
ccaaagcatg tgatggtcta ctcgatcct caggatctgt tcaacaaat ccctgagctg 1860
caggggaagc tgtgcagccg gcagcggcca ggggtccgga cacaagccct ggacctcgtc 1920
ttcatgttgg acacctctgc ctcaagtaggg ccgagaatt ttgctcagat gcagagcttt 1980
gtgagaagct gtgccctcca gtttgagggtg aacctgacg tgacacaggt cggcctggtg 2040
gtgtatggca gccagggtgca gactgccttc gggctggaca ccaaaccac ccgggctgcg 2100
atgctgcggg ccattagcca ggccccctac ctaggtgggg tgggctcagc cggcacccgc 2160
ctgctgcaca tctatgaaa agtgatgacc gtccagaggg gtgcccggcc tgggtgtccc 2220
aaagctgtgg tgggtgtcac aggcgggaga ggcgagagg atgcagccgt tcctgcccag 2280
aagctgagga acaatggcat ctctgtcttg gtcgtgggcg tggggcctgt cctaagttag 2340
ggtctgcgga ggcttgagg tccccggat tccctgatcc acgtggcagc ttacgccgac 2400

ctgcggtacc accaggacgt gctcattgag tggctgtgtg gaggtgagtg ggggaatcca 2460
 caccctcagg gctgccccca tggcaggccc tcagcctgag ccttcacata catcatgacg 2520
 aggatggcag ctcttcccag ctactgagca cttgcttccc aagtgccagg ttctgtgcta 2580
 aaccccatgc tcacataaaa tcctacagta ggtataacca tcctatttga catttaaggt 2640
 acagaaagt taactaacat agataactcc ccccaaactt gagaatttat gcattccctt 2700
 taaacagaac acacttttag aatatccaca agcttcctaa gggctctaaag atccacatt 2760
 cacactgact tgggcagtga cagagcccag agcaaacagg gccaggccag cccaaatcca 2820
 gtgacctcct cttcaccttc ttaaaagaga caggagaatc acttgaaccc gggaggtgga 2880
 ggttgtggtg agccaagatc gcgccattgt actccagcct gggcaacagg agcaagattc 2940
 tgcctc 2946

<210> 706

<211> 2557

<212> DNA

<213> Homo sapiens

<400> 706

aagcagagga ttctcaggtc cgccagtacc tcccagagac ctggctctgg gatctgtttc 60
 ctattggtaa ctcggggaag gaggcggtcc acgtcacagt tcctgacgcc atcaccgagt 120
 ggaaggcgaat gagtttctgc acttcccagt caagaggctt cgggctttca cccactgttg 180
 gactaactgc tttcaagcca ttctttgttg acctgactct cccttactca gtagtccgtg 240
 gggaatcctt tcgtcttact gccaccatct tcaattacct aaaggattgc atcagggttc 300
 agactgacct ggctaaatcg catgagtacc agctagaatc atgggcagat tctcagacct 360
 ccagttgtct ctgtgctgat gaagcaaaaaa cccaccactg gaacatcaca gctgtcaaat 420
 tgggtcacat taactttact attagtacaa agattctgga cagcaatgaa ccatgtgggg 480
 gccagaaggg gtttgttccc caaaagggcc gaagtacac gctcatcaag ccagttctcg 540
 tcaaacctga gggagtcctg gtggagaaga cacacagctc attgctgtgc caaaaggaa 600
 aggtggcatc tgaatctgtc tccctggagc tcccagtgga cattgttcct gactcgacca 660

aggcttatgt tacggttctg ggagacatta tgggcacagc cctgcagaac ctggatggtc 720
tggtgcagat gccagtggc tgtggcgagc agaacatggt cttgtttgct cccatcatct 780
atgtcttgca gtacctggag aaggcagggc tgctgacgga ggagatcagg tctcgggcag 840
tgggtttcct ggaaataggg taccagaagg agctgatgta caaacacagc aatggctcat 900
acagtgcctt tggggagcga gatggaaatg gaaacacatg gctgacagcg tttgtcacia 960
aatgctttgg ccaagctcag aaattcatct tcattgatcc caagaacatc caggatgctc 1020
tcaagtggat ggcaggaaac cagctcccca gtggctgcta tgccaacgtg ggaaatctcc 1080
ttcacacagc tatgaagggt ggtgttgatg atgaggctct cttgactgcg tatgtcacag 1140
ctgcattgct ggagatggga aaggatgtag atgaccaat ggtgagtcag ggtctatggt 1200
gtctcaagaa ttcggccacc tccacgacca acctctacac acaggccctg ttggcttaca 1260
ttttctccct ggctggggaa atggacatca gaaacattct ccttaaacag ttagatcaac 1320
aggctatcat ctcaggagaa tccatttact ggagccagaa acctactcca tcatcgaacg 1380
ccagcccttg gtctgagcct gcggctgtag atgtggaact cacagcatat gcattgttgg 1440
cccagcttac caagcccagc ctgactcaaa aggagatagc gaaggccact agcatagtgg 1500
cttggttggc caagcaacgc aatgcatatg ggggcttctc ttctactcag gatactgtag 1560
ttgtctcca agctcttgcc aaatatgcca ctaccgccta cgtgccatct gaggagatca 1620
acctggttgt aaaatccact gagaatttcc agcgcacatt caacatacag tcagttaaca 1680
gattggtatt tcagcaggat acctgcccc atgtccctgg aatgtacacg ttggaggcct 1740
caggccaggg ctgtgtctat gtgcagacgg tgttgagata caatattctc cctcccacia 1800
atatgaagac ctttagtctt agtgtggaaa taggaaaagc tagatgtgag caaccgactt 1860
cacctcgatc cttgactctc actattcaca ccagttatgt ggggagccgt agctcttcca 1920
atatggctat tgtggaagtg aagatgctat ctgggttcag tcccatggag ggcaccaatc 1980
agttacttct ccagcaacc ctggtgaaga aggttgaatt tggaactgac aacttaaca 2040
tttacttga tgagctcatt aagaacactc agacttacac cttcaccatc agccaaagtg 2100
tgctggtcac caacttgaaa ccagcaacca tcaaggtcta tgactactac ctaccagatg 2160
aacaggcaac aattcagtat tctgatccct gtgaatgagg atctggctct gttgcccagg 2220
ctgcagtga gtggcgtgat ctcagctcac tgcagcctct gcctcccaag ttcaagcgat 2280
tcttgtgcct cagcctcctg agtagctggg atgacaggca cgtgccatca cgcccagcta 2340
atTTTTTTtg tatttttaat agagatgggg tttcgccatg ttggtcaggc tggtctcaaa 2400

ctcctggcct caggtgatcc gcctacttca gcctcccaaa gtgctgggat tacaggtgta 2460
agccactgtg cccggcctgt cctaaactct tgaaaatagt ttacagaaga aaaagctaata 2520
gcttgggtatt aaaacaatac ttttttctat cagattg 2557

<210> 707

<211> 3370

<212> DNA

<213> Homo sapiens

<400> 707

agcttccttg gcatccaccg gctaaacggc cccttgaaat gtggccagcc ccaggaagtg 60
ctggtggatt attacatcga cccggccgat gcaagccctg accaagagat cagcttctcc 120
tactatttaa tagggaaagg aagtttggtg atggaggggc agaaacacct gaactctaag 180
aagaaaggac tgaaagcctc cttctctctc tctactgacct tctctcgag actggcccct 240
gatccttccc tggatgatcta tgccattttt cccagtggag gtgttgtagc tgacaaaatt 300
cagttctcag tcgagatgtg ctttgacaat caggtttccc ttggcttctc cccctcccag 360
cagcttccag gagcagaagt ggagctgcag ctgcaggcag ctcccggatc cctgtgtgcg 420
ctccgggcgg tggatgagag tgtcttactg cttaggccag acagagagct gagcaaccgc 480
tctgtctatg ggatgtttcc attctggtat ggtcactacc cctatcaagt ggctgagtat 540
gatcagtgtc cagtgtctgg cccatgggac tttcctcagc ccctcattga cccaatgccc 600
caagggcatt cgagccagcg ttccattatc tggaggccct cgttctctga aggcacggac 660
cttttcagct ttttccggga cgtgggcctg aaaatactgt ccaatgccaa aatcaagaag 720
ccagtagatt gcagtcacag atctccagaa tacagcactg ctatgggtgc aggcggtggt 780
catccagagg cttttgagtc atcaactcct ttacatcaag cagaggattc tcaggtccgc 840
cagtacctcc cagagacctg gctctgggat ctgtttccta ttggtaactc ggggaaggag 900
gcggtccacg tcacagttcc tgacgccatc accgagtgga aggcgatgag tttctgact 960
tcccagtcaa gaggcctcgg gctttcacc actgttggac taactgcttt caagccattc 1020
tttgttgacc tgactctccc ttactcagta gtccgtgggg aatcctttcg ctttactgcc 1080

accatcttca attacctaaa ggattgcatc agggttcaga ctgacctggc taaatcgcat 1140
gagtaccagc tagaatcatg ggcagattct cagacctcca gttgtctctg tgctgatgaa 1200
gcaaaaaccc accactggaa catcacagct gtcaaattgg gtcacattaa ctttactatt 1260
agtacaaaga ttctggacag caatgaacca tgtggggggc agaaggggtt tgttcccaa 1320
aagggccgaa gtgacacgct catcaagcca gttctcgtca aacctgaggg agtcctggtg 1380
gagaagacac acagtcatt gctgtgccca aaaggaaagg tggcatctga atctgtctcc 1440
ctggagctcc cagtggacat tgttcctgac tcgaccaagg cttatgttac ggttctggga 1500
gacattatgg gcacagccct gcagaacctg gatggctctg tgcagatgcc cagtggctgt 1560
ggcgagcaga acatggctct gtttgcctcc atcatctatg tcttgagta cctggagaag 1620
gcagggctgc tgacggagga gatcaggtct cgggcagtg gtttcctgga aatagggtac 1680
cagaaggagc tgatgtacaa acacagcaat ggctcataca gtgcctttgg ggagcgagat 1740
ggaaatggaa acacatggct gacagcgttt gtcacaaaat gctttggcca agctcagaaa 1800
ttcatcttca ttgatcccaa gaacatccag gatgctctca agtggatggc aggaaaccag 1860
ctccccagt gctgctatgc caacgtggga aatctcctc acacagctat gaagggtggt 1920
gttgatgatg aggtctcctt gactgcgtat gtcacagctg cattgctgga gatgggaaag 1980
gatgtagatg acccaatggt gagtcagggt ctatggtgtc tcaagaattc ggccacctcc 2040
acgaccaacc tctacacaca ggccctgttg gcttacattt tctccctggc tggggaaatg 2100
gacatcagaa acattctcct taaacagtta gatcaacagg ctatcatctc aggagaatcc 2160
atttactgga gccagaaacc tactccatca tcgaacgcca gcccttggtc tgagcctgcg 2220
gctgtagatg tggaactcac agcatatgca ttgttggccc agcttaccaa gccagcctg 2280
actcaaaagg agatagcgaa ggccactagc atagtggctt ggttggccaa gcaacgcaat 2340
gcatatgggg gcttctcttc tactcaggat actgtagttg ctctccaagc tcctgccaaa 2400
tatgccacta ccgcctacgt gccatctgag gagatcaacc tggttgtaaa atccactgag 2460
aatttcagc gcacattcaa catacagtca gttaacagat tggatattca gcaggatacc 2520
ctgccaatg tccctggaat gtacacgttg gaggcctcag gccagggctg tgtctatgtg 2580
cagacggtgt tgagatacaa tattctccct cccacaaata tgaagacctt tagtcttagt 2640
gtggaaatag gaaaagctag atgtgagcaa ccgacttcac ctcgatcctt gactctcact 2700
attcacacca gttatgtggg gagccgtagc tcttccaata tggctattgt ggaagtgaag 2760
atgctatctg ggttcagtcc catggagggc accaatcagt tacttctcca gcaaccctg 2820

gtgaagaagg ttgaatttgg aactgacaca cttaacattt acttggatga gctcattaag 2880
 aacactcaga cttacacctt caccatcagc caaagtgtgc tggtcaccaa cttgaaacca 2940
 gcaaccatca aggtctatga ctactaccta ccagatgaac aggcaacaat tcagtattct 3000
 gatccctgtg aatgaggatc tggctctgtt gccaggtgtg cagtgcagtg gcgtgatctc 3060
 agctcactgc agcctctgcc tcccaagttc aagcgattct tgtgcctcag cctcctgagt 3120
 agctgggatg acaggcacgt gccatcacgc ccagctaatt ttttttgtat ttttaataga 3180
 gatgggggtt cgccatgttg gtcaggctgg tctcaaactc ctggcctcag gtgatccgcc 3240
 tacttcagcc tcccaaagtg ctgggattac aggtgtaagc cactgtgccc ggcctgtcct 3300
 aaactcttga aaatagttta cagaagaaaa agctaattgt tggattataa acaatacttt 3360
 tttctatcag 3370

<210> 708

<211> 2914

<212> DNA

<213> Homo sapiens

<400> 708

acagggcggg cgttcggcga cgtcaccggg aggtacagtg cttggagctg ggcggtcttc 60
 tacttagagt ggagcctggt aaccgcgacc tccccgccag gtcgtgtgtg ttgacaaaca 120
 ccgactcagc acagtgttta tgtcgggtcaa aaatagaaaa ctatgtccgg gcacggccag 180
 cgggagatgc ctttcaggcc aagagcagcc tggcaacatg gcgggacccc atctctgtag 240
 tcctacctca gccccccagc tacttgaacc ccaaggttca aggctccaat gagctgtgat 300
 cccaccacag cactccagcc tgcgagactg aggtgatgat tattctccac cttctaagag 360
 aacaaagacc aacgagccac cacagccacc agtcctggaa cccgccaatg ctgggggaacg 420
 gaacatgagg gagttcaact ctgtaaagga agaattggtat gccagaatca ctaaataag 480
 aaagatgggt gatcagcttt tctgcaaaaa aatttgctga agccttgggg agcactgaag 540
 ccaaggctct actgtaccaa aaatttgaag gccatgcaaa tgatctgtat gtggaaggac 600
 taccagaaaa cattcctttc agaagtcctt cgtggtatgg aatcccaagg ctggaaaaca 660

tcattcaagt gggcaatcaa attaaatttc ttattaaaag taactccagt cggactccat 720
tgtctccaag tcgactttcg tcctcatcca caactcctcc acagaagccc tgaacacatg 780
tccatatgga gttttactct tgttgcccat gctggagtgc aatgggtgtga tcttggtcga 840
ccgcaacctc tgcctcccgg attcaagtga ttctccttcc tcaacctccc gagtagctgg 900
aaatacagat tgagttttgc tctgttgccc aagctggagt acagtggcac aatctccact 960
cactgcagcc tctgcctcct gggttcgggg gattctcatg cctcaacttc ccaagcagct 1020
gggattacag ctcaagctct tggactcact gaggcagtaa aagtaccata ttctgtgttt 1080
gaatcaaacc ccgagttcct atatgtagaa ggcttgccag acagaattcc ctttccaagc 1140
cctacctggg ttggaattcc atgacttgaa aggatcatct gtggagtaat aaaaccaagt 1200
ttgttgtaa aaagtgagtt ccaggccggg tatgggtggct cacgcctgta atcccagcac 1260
tttgggaggc caaggcaggt gaatcacctg aggtcaggag ttcaagacca gcctgaccaa 1320
catctctact aaaaatgtta aaaattagcc aggcattggtg gctgggtgcct gtaatcccag 1380
ctacttggga gcctgaagca ggagaatcgc ttggggctgg gaggcagagg ctgcagtgag 1440
ccaagatcgc agcactgtac tctagcctgg gcgacagagt gagactctgc ctcaacaaca 1500
acaacaacaa tattaacaaa acctgaacta gttatttcct actcgcctcc tggaacggct 1560
aataaaataa aactaaagc tttgcagtcc ccaaaaagac catgaagccc tgagagtaat 1620
ggaaagggtc ctgaaattga ggctactgtg gaagagatgg gatagtgtg tgtttccag 1680
gattgtctca aactcctaac ctcaagtgat cctcctgcct cagcctcca aattgctggg 1740
attataggca gaaccaccta agctgaggag tcccttgaga acaagggcta gcctgtgatt 1800
tcgtgacctt tcttccattt gtggttcttg ccaagtggaa tttaaagac cttttatcaa 1860
gatggataaa cccaagtttc ccagtgtgg aatatagaaa atggatggat aaaatgtctt 1920
tttgtcacct tcaactaat ctacatgaa agacttcaga gtccaggaag agagactgac 1980
tgggcaacat cttattcaga aacaggacct tgccctgtca ctcaggatgg agttcagtgg 2040
tccaatcatg gctcactgta gcctcaaact cccaggctca agcaatccta ccacgtcagc 2100
cttcccagta gctgggtctca cgctgtcact taggctggag tacagtggca cagcctctgc 2160
tcgctgcagc ctccacctgc caggctcagg cagtcttct gacttagcct cctgagtagc 2220
tgggattacg ggtaagtgcc gccacgccga gctgggtttt gtgttttttg tagagatggg 2280
gtttcgccat gtttcccaga ctggtctcaa gctcctgagc tcaaagcgat tcgcccacct 2340
tggcctccca aagtgtggg attacaggtg tgagccacct tgctcattct agtttaaact 2400

tttgagtggg ttgtgtctcc tgattggact cctacaaata cagaattgat ggtaggaagg 2460
 gtaccaggag atagaccac acagatggga tttgggaata agtttgggta tccaaggagc 2520
 agtgctgagc tccttgctaa tgggatatgg gatgctgggtg atttccagga agtgacctca 2580
 caatgactca agctaccact tactgttgat tgtgatgaaa taccagggtga aggccgggtg 2640
 cggcagctca cccctgtggg cccagcactt tgggaggcca aggcgggagg atcgctaggt 2700
 cagaagatcg agaccatcct ggctcggtga agccccgtct ctactaaaaa tacagaaaat 2760
 tggctggggc tgggtggcggg cacctgtggg cccggctact cgggaggctg aggcaggaga 2820
 atggtgggaa cctgggaggc ggagcttgca gcgagccgag atcctgtcac tgcctccag 2880
 cctgggcgac agagtgagac tccgtctcaa aaac 2914

<210> 709

<211> 3060

<212> DNA

<213> Homo sapiens

<400> 709

acgtacctgt actactcctt gttgatgatt ttgaagaaca agataatgtc tatcttctgc 60
 agtactctat tcaaacagct atagctaaaa agtacattcg atatgaaaaa cctctgggtga 120
 ttatcctaaa ttgtatgaga tcacaaaatc ctgaaaaaag tgcaaggatc ccagacagta 180
 ttgccgtaat acagcaactc tctcccaaag aacagagagc ttttgagctt aaattgaaag 240
 aaatcaaaga acagcataaa aactttgagg atttttattc ctttatgatc atgaaaacca 300
 attttaataa agaatacata gaaaatgtgg tccggaatat cctgaaaggg cagaatattt 360
 tcaccaagga agcaaagctc ttttcttttc tggctcttct taattcatat gtgcctgata 420
 ccaccatttc actatcacag tgtgaaaaat tcttaggaat tggaaacaag aaggctttct 480
 gggggacaga aaaatttgaa gacaagatgg gcacctactc tacaattctg ataaaaacag 540
 aggtcatcga atgtgggaac tactgtggag tacgcatcat tcactctttg attgcagagt 600
 tctcactgga agaattgaag aaaagctatc acctgaataa aagtcaaatt atgttggata 660
 tgctaactga gagtttgttc ttcgatactg gtatgggaaa aagtaaattt ttgcaagata 720

tgcacacact cctactcaca agacaccgcg atgaacatga aggtgaaaca ggaaattggt 780
tttccccatt tattgaagca ttacataaag atgaaggaaa tgaagcagtt gaagctgtat 840
tgcttgaaag tatccatcgg ttcaacccaa atgcattcat ttgccaagcg ttggcaagac 900
atttctacat taaaaagaag gactttggca atgctctaaa ctgggcaaaa caagcaaaaa 960
tcatagaacc tgacaattct tatatctcag atacactggg tcaagtctac aaaagtaaaa 1020
taagatgggtg gatagaggaa aacggaggaa acgggaacat ttcagttgat gatctaattg 1080
ctcttttggg tttagcagaa catgcctcaa gtgcattcaa agaatctcaa cagcaaagtg 1140
aagatagaga gtatgaagtg aaggaaagat tgtatccgaa gtcaaaaagg cggtatgata 1200
cttacaatat agctgggttat caaggagaga tagaagttgg gctttacaca atccaaattc 1260
tccagctcat tccttttttt gataataaaa atgagctatc taaaagatat atgggtcaatt 1320
ttgtatcagg aagtagtgat attccagggg atccaaacaa tgaatataaa ttagccctcg 1380
aaaactatat tccttattta actaaattga aattttcttt gaaaaagtcc tttgattttt 1440
ttgatgaata ctttgtcctg ctaaaaccca ggaacaatat taagcaaat gaagaggcca 1500
aaactcggag aaaggtggct ggatatttta agaaatatgt agatatattt tgtctcttag 1560
aagaatcaca aaacaacaca ggtcttggat caaagttcag tgagccactt caagtagaga 1620
gatgcaggag aaacctagta gctttaaaag cagacaagtt ttctgggctc ttggaatatc 1680
ttatcaaaag tcaagaggat gctataagca ctatgaaatg tatagtgaac gaatatactt 1740
ttctcttaga acaatgcact gtcaaaatcc agtcaaaaaga aaagctgaat ttcattcttg 1800
ccaacattat tctctcctgt atccaaccta cctccagatt agtaaagcca gttgaaaaac 1860
taaaagatca gcttcgagaa gtcttgcaac caataggact gacttatcag ttttcagaac 1920
cgtattttct agcttcctc ttattctggc cagaaaatca acaactagat caacattctg 1980
aacaatgaa agagtatgct caagcactaa aaaattcttt caaggggcaa tataaacata 2040
tgcacgtac aaagcaacca attgcatatt tctttcttgg aaaaggtaaa agactggaaa 2100
gacttgttca caaaggaaaa attgaccagt gctttaagaa gacaccagat attaattcct 2160
tgtggcagag tggagatgtg tggaaggagg aaaaagtcca agaacttttg cttcgtttac 2220
aaggtcgagc tgaaaacaat tgtttatata tagaatatgg aatcaatgaa aaaatcacaa 2280
tacctcac tcccgtttt ttaggtcaac ttagaagtgg cagaagcata gagaaggtgt 2340
ctttttacct gggattttcc attggaggcc cacttgctta tgacattgaa attgtttaag 2400
agcctgatat tcttctcca agaatttgat ctcagtacc atttaatttt tttggactca 2460

agatctatgc tttaaactgg caaggttata gatacagcct ctagctcttc agatctgtac 2520
 atgcagtatt taatttcctc ttaaacaatgt catgagttct acaaagacaa tagtgaaaaa 2580
 ggaaggagtg agatatatga aaagtagcaa atatgttcct tggtttggtt aacatcattg 2640
 atgacaaaat aataaggagc tatgactgga gtcaggagaa gttagtgtaa taagctggct 2700
 acacagaacc ccactactta ccaggcatgg attgaagaag attgtctact caaatggcat 2760
 ttagacatta gaatgtctgg gaaaatatatt ctcaaagaca gcaaaaacct ctcaaactga 2820
 ggagcaacat ttattcttac taagcagatc atcaatgtat catgtgcttg gcactcaagg 2880
 atcttccaaa acagaggacc aaccagtctt ctgaaggcca tgcccacaga agtcacacaga 2940
 ccttaccaaa gtaggttgga gaattagatt gccttttcat gcagtgagat tcagttaagc 3000
 aaaaatgaaa tttgtctcta tagctaatta gcttatcaac tcccctccaa acaacaatt 3060

<210> 710

<211> 2582

<212> DNA

<213> Homo sapiens

<400> 710

catactttat ttttgatcaa cacattaatg tgaacccttg tttctcctgt cacctgtgtt 60
 cacagtgacc ctagagaggt aactaggaca gcatcttata ccctctcaca gctgaggaaa 120
 ctgagctgtg gagttgggaa gcaactgccc tcaggtggca ggtaggtgaa ggggccatgt 180
 ctggaggctg ggtctctctg acacctgtgc cttttctgct gcctgtggga cctccagcag 240
 tgcattgggtc aagtggagtc caggtagcta gaaccctggg gctcacagca tatgttgtct 300
 gattacaaaa aaaaagagca aaggtatttt ttgaccaggt taaaccataa ggggacagtc 360
 caatgggtgtt tgcttttttt ttttttttga ggcagggcct ggctctgttg cccaggtctg 420
 aatgcaatga cacgatctca gctcactgca acctctacct cttgggctca agccaccctc 480
 ccacctcacc ctccaagta gctgggacta caggtacgca ccaccacacc cagcggagtt 540
 ttgtacttta tatagagatg gaattttacc atgttgccca gactgggtctc gaactcctga 600
 gctcaagaga tcccccaacc tcggcctccc aaagtgctag gattacagat gtgagccacc 660

gttccccggcc ccacaatagt gtttttttaa attacctttc ctttaacctt tccacttaat 720
ttttgatgag actctcagca tctcagtgtc taacatcaga cctggttttg gcagccaaga 780
agccttgatc tgtcttctgc ctccaagatg tctgtgagct ctttccactg tgaccccaca 840
ggcatgggtt ttgacaaaac ttgtgcttag tgaaagatgg cggaaatttc cacctttagg 900
aatgtgggta acagtgtc ca agagtgggtcc actgaagcgg tcagcccatc caggtgtgca 960
ccagagcatt tgctgggtctt ctgcctaccc cggacagata ggagtctaaa tgtcagatgt 1020
gccagcgggt gggtcatggt gccaccatt tggcaggaat cttttttgat gatagaaacc 1080
cagggcagtg atgtttgtga atgtgagtat tgagatgggt gatacttctt ggtgctctgt 1140
gtgctgctta cagttcagtg gggcttgccc actgagaaga gctgggtccc tggcaggcca 1200
tgtctcatgt ctgaagatca ttctcctgcc ttctttttgc ccaccactct cttttttctt 1260
tctttttctg aaaggtaggg agggatagga ttaagtaaaa gggtatctat aaaagctgcg 1320
tgcccaagaa gtctgcaagc cactgacgt ccttggtttc atggttttaa gtgagatgct 1380
gcctagtaaa ggggtgaatc cttttacttg aacatcccta gagtcattt aacgagagcc 1440
cttttattca cttctaaaga aaatacagt gatattcaca tcacaaagtc agattttctt 1500
ttgtttggac atcaataagg acatacactc gctagtttgt ttacacatc aggtaaaaag 1560
catttgcttt tccgttttct tctggaatgg tccttaagta agcctagtag atgactcctc 1620
agtgtttctt taaattcttg ttactagtcc agaaagggtg tggtggtaga ttcttcctt 1680
tctagtccag atttggttta aatttgtagg gccacctttt tccatcctga acaatccagg 1740
aattccataa atactgttgc ctggggaaag aagggtctag catgtatgtc gggaaggagg 1800
aaacaggagg aatgaaagga aggaagagga aagatgcatg ggaggaagag agctggattg 1860
ggactgcaca gtcacagccc ttgcctccgg tgtcacaagg gcttcatggg gctctggaga 1920
gtcagatccc tgtgaaagca gatggacaga aaccagccag agagagaggc tcagaagatt 1980
ggagcaggca gttctgaagc tcagggtgt gtcaaaagct agccaaatgt gttggggcga 2040
ggcggcttgc ctggcaaacc catctgcttt ttgcttaata gatgggtttg gatgcctgtg 2100
gaacagaggc ctcggggggac gagctttgtt aactttgtgt tatgttgaag gaatgtgaca 2160
gaggagggtg tgactgtcat ccacccatca gggatctgtc cctgacacgc tggggtagag 2220
gatggaagaa catggaatag aggatggaag aatatggaat agtgcctga ctcgaaagtt 2280
aaccgatttc ctcccttcc ttcccttctc tctcagcaac tccgaagtca agcccgcact 2340
ctgattacct ttgctggaat gataccatac cgaacgtctg gggacaccaa tgcgaggctg 2400

gtgcagatgg aggtcctcat gaattaagtg ccatgctttg tgggagtctg ggtcggcaca 2460
 ctgtcagtac atcaggcaca tgggcccact aggctgggggt ttctggtttt gtttctgttg 2520
 tgttttgttt tggtttctgt attatgtatt ttgtcaacg ccaataaatt tctttgattt 2580
 gt 2582

<210> 711

<211> 3171

<212> DNA

<213> Homo sapiens

<400> 711

ttttatctac cgactcctag ttagaaatcc cttgcaaggg gtgttagggt tctgagagaa 60
 ggctggtaag taatgaggct tttaacttat ttcagtatcc tggtcaggtc gggaatatgt 120
 tgtgttctaa ttactctagt ttccagctca attgggtgtg gagaaactag cccacttata 180
 agtggctcaa atgaaaaccc acggggaggc atttttcttt aataagcaac cctaagcccc 240
 ctttgaagtc agtctgacta atcaaaagaa agaggttata tatcccagtt ttgaccttct 300
 gtgaaaatag cccttttact gtatgtgata tattattggc atctcattct gcacagtcca 360
 aatgatgtag acaaaatagt gattgggtata taactatgga caccgaagat ccaactgcaag 420
 gcctgccgat cactttacac agaaggagcc cctttcctga ggtccgcttg ctcgctcggg 480
 gtgggggtggg actttgccct agtaaaactac caagcagtcc gaacgttcgc tcctctggaa 540
 gaccgagttg tgggcggctg cgctgcgggg gcaaactcgc cgcattgccc ctggccagag 600
 cgagtcgggg cctggcggtta gggcaatcca gactggccgg catggtacag ggcgtatccc 660
 tagccgcctt ctgtgtcata tggggcgccg ccctccagcc taggagaggc ggccgctagg 720
 aggggcagaa gggccttgtc tgccccgggtc tgaatacccc aggcgggggtc ggaaagcggg 780
 tcacagaaga gcccagtaaa ctgcaggggt gcagctcgtc tccaggaacc ggcaaccccc 840
 agggccgcac aagccggtta caaccataa tccgattctg tcttcgggat cagaagagag 900
 gacagctggc ccgcgcgcca gctcagttcc tcctccgcat tcttcaggag gagccccaga 960
 aacgcacttc cgccgcgcgg gcctgcctcc acgcagggcg cgtcctaggc cggttcattt 1020

ccgcccagcg ctttctgtgg ctaggggagt cagggctttc cttttccctt attcgggctc 1080
ttatgttacc cccgttttcc gttgaaccct tttctcccct cttgccctcc aaaaaagca 1140
gtctgctgcc gctcccgact tttctcgctg agacaccgct agctcactcc gagcccagca 1200
cagcggccat cttcggtaaa tttctggcagc agcccgctg ttcattgtcc tgtgtgccca 1260
gaggaaagaa ctactcattt ttcgtgatca agctagggga ggcaggagca ataatggccc 1320
tgctatagga ctggctttta tttgaattcc aactcttctg ccaccttaac cagctgtatc 1380
cagattttaa aagttaatct atccgagcct cttattaaat attaggttga tgagatgatg 1440
catgcaaagc gcttagaaca gtactaggca taaagcttcc gacataaagg ttaagtaaaa 1500
gtaaggaaaa gctatgggga tgtattgagt atctctttgc ccaatgacgt attagtcgta 1560
ttaaatatgg aaagtgcctt tgattcgccg tgcccatggg agaaggcata ggaatggcct 1620
tttcccacct gtaatcagag agcaggtgtt tcaagaacgc ctcaatatgc ttgcgatctc 1680
tcacgcagcc tttcaggctc ctaattccta cgaagtttcc gcttttattc aaattggctc 1740
actccttttt gcagggcttt gtactgaatg agtattcttt taagggtggg ggacaagcaa 1800
aggtttggta gcatcacatt ttttaatttca cagggaataa gggtatgaaa catcttccca 1860
agtacatctt agactgccag ctgacagcaa gccataatgc tcccagctc ttgggccccta 1920
caccctctct ccccatccc cgcttttagtt ctttgtcatt gctcatggac agctggtttg 1980
gggaccaggt gcagatgatg ggaggtgtct gaaaaacagc aagtgagaaa tgctagtttt 2040
gttgttttaa gttgcactga tgactccagt agttatctgt gctgcttggtg ataatttata 2100
aggcaatgat aacgaattaa acatacaaaa gattattatc ttccacagga aaaaaaact 2160
gcaaacttgt gacaccattt atgatccact tagtcttgag atactgagta atagaacttt 2220
ctccttttag gctgagttat gaacttcggg ttggtttctt tctgcaatcc ctgcagggcc 2280
ataaattctt ggcccttaag actgggtggc ccataacaga ctcagtata ccatcagtaa 2340
ccacaattca cactggagtc aagtatatctg attcccacac cagttggaga actggagatt 2400
ccttagaact ttaactgtc atgttttcaa agttgacatg gaaaatttta catgaagctt 2460
aaaaatacaa ctaatctgtg gtgatagaga cgagaagagt taagctctaa aattagaaga 2520
gcagttcggt ttgaggcagc actgattggg agggagcatg gagtatataa ttacacattt 2580
ctatgtaatg taaaaatgta tagatttaag atttatgcat tttatgtaaa ttttactaca 2640
ataaaacgaa aatgaaagaa gagatcatag tttaatcaaa tattgtgtac aaagtaattt 2700
ctgttaaaca tttatatattt tatgtgtata tgtatctttt acatgtatgt gttaaggata 2760

tgcattaaaa tggtaataac ttcctctgcc tgttgggata atggagagtt ttgttacttt 2820
 ttgtcttttt ttaaaacatg ttcttcaata ataatgtatt gcttttgtaa ttatgaaaaa 2880
 caaaagttaa tttgtaaatac tttgttactg ataagagatg ggtattctgt taactactca 2940
 attctcatgt aggaaaacaa aatacataat gtctatttga taaatcgaga aacagaagca 3000
 ttacttagaa atctgagtta cctctaaaat aatgactggc atttgaagtt gaggatgggt 3060
 cttgagttcc tgtgatttta agctcttggg tatgagggtt gggtaggttc ctctttttct 3120
 cttttaaaat atatgtatgt ttaactttgc taaataaaat taaaagatg c 3171

<210> 712

<211> 3343

<212> DNA

<213> Homo sapiens

<400> 712

aaaaggtctg tcacctcca gttgaagtct gtgtgcctac caagaatggc cggaggactc 60
 gctgcttgac gggagggatg ctccagcttg gtctccaggg acaactgtac ctggggataa 120
 agtctggata ccagggaggg acagagatgc tcttccttcc acagtgtggc cacttgctgg 180
 gccatgtgaa ccagcagagg agagttcctt ggctatgctg ttgttcccc gctgtccagg 240
 gagaatggag gtggactgag gagtgaagtt tgggcgaact gcacagagct gtcctcttc 300
 accccgaaaa tttgtctttt tacagaatcc aggttctccc ctccctcatc actgctgttg 360
 cttcctttga aagtctaaac cactggaggc ttctttttcc ttctctctc cttccccagt 420
 ttctctgtc ccaattaaaa ccaggatgga gagcatttgc tggctggccc caattattgt 480
 acccttgccc aaagggaggg gcctctgtcg tgaccctca gaaatctggc agtctgggtt 540
 tccaccttc ccctatttaa ctctcagccc ccacccatcc cctgggggttg cggctggcag 600
 gccgggactt gcagaaccaa atgggccagg ggccaagtcc attcttttgg gagagagcaa 660
 tggtagcttc ccttaacggg aaaacgagaa atattgaggg gaagatggac tgcgatccaa 720
 acgccctggc tctcaggcct ggactctagg gcttagccag atgcctaaac cgcccaagcc 780
 gagaaacaac ttagaagaca gatataaccc tgggattcag ggaaggcgcg agcaccgccc 840

aggacctggt aggggtgag cgcgagcag tccgggaggg agcgcgccta gggcggagcg 900
 taggctgtgg ggggagggct gggagtccgg ggccgccccca caccgcact cctcccgggt 960
 ttctgctctc cgcccgtgtg gagtgggtggg ggcctgggtg ggaatgggcg tgtgccagcg 1020
 cacgcgcgct ccctggaagg agaagtctca gctagaacga gcggccctag gttttcggaa 1080
 gggaggatca gggatgtttg cgagcggctg gaaccagacg gtgccgatag aggaagcggg 1140
 ctccatggct gccctcctgc tgcctgcccct gctgctgttg ctaccgctgc tgcctgtgaa 1200
 gctacacctc tggccgcagt tgcgctggct tccggcggac ttggcctttg cggtgcgagc 1260
 tctgtgctgc aaaagggctc ttcgagctcg cgccctggcc gcggctgccg ccgaccgga 1320
 aggtcccag gggggctgca gcctggcctg gcgcctcgcg gaactggccc agcagcgcgc 1380
 cgcgcacacc tttctcattc acggctcgcg gcgctttagc tactcagagg cggagcgcga 1440
 gagtaacagg gctgcacgcg ccttcctacg tgcgctaggc tgggactggg gacccgacgg 1500
 cggcgacagc ggcgagggga gcgctggaga aggcgagcgg gcagcgccgg gagccggaga 1560
 tgcagcggcc ggaagcggcg cggagtgtgc cggaggggac ggtgccgcca gaggtggagg 1620
 agccgccgcc cctctgtcac ctggagcaac tgtggcgctg ctctctcccg ctggcccaga 1680
 gtttctgtgg ctctggttcg ggctggccaa ggccggcctg cgactgcct ttgtgcccac 1740
 cgccctgcgc cggggccccc tgcctgactg cctccgcagc tgcggcgcg gcgcgctggt 1800
 gctggcgcca gagtttctgg agtccctgga gccggacctg cccgccctga gagccatggg 1860
 gctccacctg tgggctgcag gccaggaac ccacctgct ggaattagcg atttgctggc 1920
 tgaagtgtcc gctgaagtgg atgggccagt gccaggatac ctctcttccc ccagagcat 1980
 aacagacacg tgcctgtaca tcttcacctc tggcaccacg ggcctcccca aggctgctcg 2040
 gatcagtcac ctgaagatcc tgcaatgcca gggcttctat cagctgtgtg gtgtccacca 2100
 ggaagatgtg atctacctcg cctcccact ctaccacatg tccggttccc tgcctgggcat 2160
 cgtgggctgc atgggcattg gggccacagt ggtgctgaaa tccaagtctt cggctggtca 2220
 gttctgggaa gattgccagc agcacagggt gacgggtgtc cagtacattg gggagctgtg 2280
 ccgatacctt gtcaaccagc ccccgagcaa ggcagaacgt ggccataagg tccggctggc 2340
 agtgggcagc gggctgcgcc cagatacctg ggagcgtttt gtgcggcgct tcgggcccct 2400
 gcagggtgct gagacatatg gactgacaga gggcaacgt gccaccatca actacacagg 2460
 acagcggggc gctgtggggc gtgcttcctg gctttacaag catatcttcc ctttctcctt 2520
 gattcgctat gatgtcacca caggagagcc aattcgggac cccaggggc actgtatggc 2580

cacatctcca ggtgagccag ggctgctggt ggccccggtg gccagcagtc cccattcctg 2640
 ggctatgctg gcgggccaga gctggcccag gggaagtgtc taaaggatgt cttccggcct 2700
 ggggatgttt tcttcaacac tggggacctg ctggtctgcg atgaccaagg ttttctccgc 2760
 ttccatgata gtactggaga caccttcagg tggaaggggg agaattgtggc cacaaccgag 2820
 gtggcagagg tcttcgaggc cctagatttt cttcaggagg tgaacgtcta tggagtcact 2880
 gtgccagggc atgaaggcag ggctggaatg gcagccctag ttctgcgtcc ccccccacgt 2940
 ttggacctta tgcagctcta caccacgtg tctgagaact tgccacctta tgcccggccc 3000
 cgattcctca ggctccagga gtctttggcc accacagaga ctttcaaaca gcagaaagtt 3060
 cgatggcaa atgagggtt cgaccccagc accctgtctg accactgta cgttctggac 3120
 caggctgtag gtgcctacct gcccctcaca actgcccgtt acagcgccct cctggcagga 3180
 aaccttcgaa tctgagaact tccacacctg aggcacctga gagaggaact ctgtggggtg 3240
 ggggccgttg caggtgtact gggctgtcag ggatcttttc tataccagaa ctgcggtcac 3300
 tattttgtaa taaatgtggc tggagctgat ccagctgtct ctg 3343

<210> 713

<211> 3212

<212> DNA

<213> Homo sapiens

<400> 713

ataacagccg tgggtggttat ggctgggtctg agcggcgcgc agatccccga cggggagtgt 60
 accgcgctag tgtaccggct catccgcgat gcccgctacg ccgaggcggg gcagctgctg 120
 ggccgagAAC tgcagcggag ccccaggagt tcgcgctggc ggccgagtgc tatgagcagc 180
 tgggccagct gcacccggaa ctggagcagt accgcctgta ccaggcccag gccctgtaca 240
 aggctgcct ttatccggag gccactcggg tcgccttctt tctcctggat aacccgcct 300
 accacagccg ggtcctccgc ctgcaagctg ccatcaagta tagcgagggc gatctgccag 360
 ggtccaggag cctggtggag cagctgctga gtggggaagg gggagaagaa agtggaggcg 420
 acaatgagac cgatggccag gtcaacctgg gttgtttgct ctacaaggag ggacagtatg 480

aagctgcatg ctccaagttt tctgccacac tgcaggcctc gggctaccag cctgaccttt 540
cctacaacct ggctttggcc tattacagca gccgacagta tgcctcagca ctgaagcata 600
tcgctgagat tattgagcgt ggcatccgcc agcatcctga gctaggtgtg ggcatgacca 660
ccgagggcctt tgatgttcgc agtgttggca acaccttagt tctccatcag actgctctgg 720
tggaagcctt caaccttaag gcagccatag aataccaact gagaaactat gaggtagctc 780
aagaaacctt caccgacatg ccaccaggg cagaggaaga gttggaccct gtgaccctgc 840
acaaccaggc actaatgaac atggatgcca ggcctacaga agggtttgaa aagctacagt 900
ttttgtcca acagaatccc tttcctccag agacttttgg caacctgttg ctgctctact 960
gtaaatatga gtattttgac ctggcagcag atgtcctggc agaaaatgcc catttgacgt 1020
ataagttcct cacaccctat ctctatgact tcttagatgc cctgatcact tgccagacag 1080
ctcctgaaga ggctttcatt aagcttgatg ggctagcagg gatgctgact gagcagcttc 1140
ggagactcac caagcaagta caggaagcaa gacacaacag agatgatgaa gctatcaaaa 1200
aggcagtga tgaatatgat gaaaccatgg agaaatacat tcctgtgttg atggctcagg 1260
caaaaatcta ctggaatctt gaaaattatc caatgggtgga aaagatcttc cgcaaacttg 1320
tggaattctg taacgaccat gatgtgtgga agttgaatgt ggctcatgtt ctgttcatgc 1380
aggaaaacaa atacaaagaa gccattgggtt tctatgaacc catagtcaag aagcattatg 1440
ataacatcct gaatgtcagt gctattgtac tggctaactt ctgtgtttcc tatattatga 1500
caagtcaaaa tgaagaagca gaggagttaga tgaggaagat tgaaaaggag gaagagcagc 1560
tctcttatga tgacccaaat aggaaaatgt accatctctg cattgtgaat ttggtgatag 1620
gaactcttta ttgtgcaaaa ggaaactatg agtttggtat ttctcgagtt atcaaaagct 1680
tgagaccta taataaaaag ctgggaacag atacctggta ttatgcaaaa agatgcttcc 1740
tgtccttggt agaaaacatg tcaaaacaca tgatagtcac tcatgacagt gttattcaag 1800
aatgtgtcca gtttttagga cactgtgaac tttatggcac aaacatacct gctgttattg 1860
aacaaccctt cgaagaagaa agaatgcatg ttgggaagaa tacagtcaca gatgagtcca 1920
gacaattgaa agctttgatt tatgagatta taggatggaa taagtagtta tgactgatag 1980
tggctttttt caaatggct ttcttacgta ccacactttt ttttatctgt atttagcctt 2040
ggcatcttta tatttgtctt attttgaatc ttatccactt tgtaagaaca agtttatgtt 2100
tgagcaactt tttcatttaa tccagaaggg tagggactat gcagtgtgag ctgcatcact 2160
tctgctttct tctactagt gacaatcatc tggctctgcc ctcaagcaac aattgctaga 2220

gtaacatctt tgtataagca agtaacccca gatagagttg acgtttcagc tttgggctgt 2280
 caaaagggta tgtcatggac caaagcactg ttagtacggg tatgtttgca tttggtcact 2340
 gatatgtaaa tgactgctag cccacggctg gaccacttct caatcagcaa ataaagccat 2400
 gtctattttg ctatctcagc atagactatg ctgtctgata aatctaattc ttaactctat 2460
 ttctccagtt ttttagtcct ttaactttct ggattgcaac gaagtctagt ttagacctct 2520
 aagccctttt agaagtacaa gtataatggg aatttctttt cttggttctt ttcaggttat 2580
 gaggtttggg cagtgacaaa attttttttc ataatttggg tgattgggtg cttcttaagt 2640
 tttataataa acgtttttct tcatgttcta tttttgattt tacataaatg attttgccctc 2700
 cttgtggata ctgacatata ttaagtgtgg aagcttatta atatttttgg ttttttaaaa 2760
 actgaaattt ttaattttta ctttttaatt ttttaggaaa aaataagcac tgaactgaga 2820
 atgagaagaa taaaagtatg agttccatac cttctaattt taggctgtca gaaattcctt 2880
 tattcttttg gatttcacaa tcatttgaac tatcagaagc ctttacaatt acttttagct 2940
 gtaacatccg attctgtata agccacatag aaaaaagttg cttttctttt tttatgacct 3000
 ggatatataa gcaaatcagc taggaaatat ataattgtat tttatattaa tgttttctag 3060
 gattttggct tacagtaaag gttagccctt atggtaagtg attgttattg ttggatgtta 3120
 tactgattat taataagaaa tttggatttt tgccttttta cctggaattt ttgcttacag 3180
 ccgtagctat gaatatatat aggggtgggtcc cc 3212

<210> 714

<211> 3686

<212> DNA

<213> Homo sapiens

<400> 714

atggatgacc catctccctg tgggacttct gagatgtgcc cggctgccct ctatggcttc 60
 ccctccaccg ggaccagccc tccgaggccc ccagccaact ccacaggcac cgtccagcac 120
 ttacggagtg actccttccc tggttctcac aggacagagc agactccaga cctgggtggga 180
 atgttgcttt cctactccca ctcagagctg ccccagaggc ccccaaacc tgccatctac 240

agctctgtga ccccaagaag ggacagaagg agtggtaggg actacagcac cgtttcagca 300
tcccctactg ccttatccac gctgaagcag gactctcaag aatccatctc aaatctagag 360
agacccagca gtcctcccag catccagccc tgggtctccc cacataatcc agcctttgcc 420
acagagtctc ccgcctacgg ttcttcccca tcctttgtct ccatggagga tgtgaggatc 480
cacgaacctc tgccccctcc tccccacag aggagggaca cccatccctc cgtggtggag 540
acagatggcc atgctcgtgt agtggttccc acgctgaagc agcatagcca ccctcctcca 600
ttggccctag gttcagggct gcatgcccc cataaaggcc cacttcccca agcctctgac 660
cccgctgtgg ccaggcagca ccgacctctg ccatctaccc cagacagctc ccaccatgct 720
caggccaccc ccaggtggag atacaacaag ccgtacccc ctaccctga tttgccgcag 780
ccccacctc ctcccatttc tgctcctggg agctcaagga tctacaggcc tctaccccca 840
ctaccatca tagacctcc caccgaacca ccccatctgc ccccaaagtc cagggggagg 900
agcaggagca ctcggggagg acatatgaac tcagggggtc atgccaaaac aagacctgct 960
tgtcaagact ggacagtccc cctccctgcc tctgctggac gcacctctg gccccggcc 1020
acagctagat caacagagtc tttcacttcc accagcagga gtaagagcga agtgtccct 1080
ggcatggctt tcagcaacat gacaaacttc ctatgccctt cttcccctac cactccctgg 1140
actccggagc tccagggacc cacctctaag gatgaagcag gggctctcaga acacctgag 1200
gcccctgcga gagaaccttt gagaaggaca acccctcagc aaggagccag tggcccaggg 1260
aggtcacctg tgggccaaagc aaggcagcca gaaaaaccca gccatctgca cctggagaag 1320
gcgtccagct ggccccacag gcgggactca gggaggccac caggggacag cagtggacag 1380
gctgtggctc ctagtgaggg ggccaacaag cacaagggct ggagccggca gggcctgcgc 1440
agaccttcca tcttgccctga gggctcttca gattcaagag gtccagccgt ggagaaacat 1500
ccgggaccct cagacactgt tgtttttcgg gagaaaaaac caaaggaggt gatgggaggc 1560
ttttcaagac gctgctcaa actcatcaac tcctcccagc tgctttacca ggagtatagt 1620
gatgttgtcc tgaataagga gatccagagc cagcagcggc tggagagcct gtccgagaca 1680
cccgggccta gctctccgcg gcagcctcgg aaggccctgg tctcctccga gtcgtacctg 1740
cagcggctct ccatggcctc cagcggctcc ctctggcagg aaatccccgt ggtgcgcaac 1800
agcaccgtgc tgctctccat gacctatgaa gaccaaaagc tgcaagaggt caaatttgag 1860
ctgatttgtt cagaggcctc ctacctgcgc agtctaaaca tagctgtgga tcatttccaa 1920
ctttcaactt cactccgggc cacactttcc aaccaggagc accaatggct cttctctcgt 1980

ttacaggatg tgcgagacgt cagcgccacg ttcctttcag acctggaaga gaactttgag 2040
aacaatatct tctccttcca agtatgtgac gtagtcctga accacgcccc agacttccgc 2100
cgggtctacc tgccttatgt caccaaccag acctatcagg aacgcacctt ccagagcctg 2160
atgaatagca acagcaattt ccgggaggtc ttggagaagc tggagagcga ccccgctctgc 2220
cagcgccctt cctcaagtc ctttctgatt ctgcccttcc aacgcatcac ccgcctcaaa 2280
ctgctgctcc agaacattct gaagagaaca cagcctggct cctcggagga ggcagaggcc 2340
acgaaggcac accacgccct ggagcagctg atccgggact gcaataacaa tgtccagagt 2400
atgcgacgga cagaggaact aatctacctg agccagaaga ttgagtttga gtgcaaaata 2460
ttcccgtca tttctcagtc acgctggctg gtgaaaagtg gggagctgac agccttggag 2520
ttcagtgtt ccccagggt acgaaggaag ctgaacacgc gtccagtcca cctgcacctc 2580
ttcaatgact gtctgtgtgt gtctcggccc cgagagggtg gccgattcct ggtatttgac 2640
catgtccct tctcctccat tcggggggaa aagtgtgaaa tgaagctaca tggacctcac 2700
aaaaacctgt tccgactctt tctgcggcag aacactcagg gcgcccaggc cgagttcctc 2760
ttccgcacgg agactcaaag tgaaaagctt cgggtgatct cagccttggc catgccaaga 2820
gaggagtgtg accttctgga gtgttacaac tccccccagg tacagtgcct tcgagcctac 2880
aagccccgag agaattgatga attggcactg gagaaagccg acgtgggtgat ggtgactcag 2940
cagagcagtg acggctgggt ggagggcggt aggctctcag acggggagcg aggctggttt 3000
cctgtgcagc aggtggagtt catttccaac ccagagggtc gtgcacagaa cctgaaggaa 3060
gtcatcagag tcaagactgc caaactacag ctgggtggaac agcaagccta agtcttctct 3120
gagaggagtt tcgtgagctg aagaacaagc tgctcatggc aagggtggc cccagaacct 3180
tgcaagagag gccttctgtg gatggagaac taggccttct caaagctcaa ggacaaaatc 3240
cagctaacct agtcctcgg cccaggcctc ctttctgtgt ttgtgcttgg tgggggggat 3300
ttcgagggac ttgactgtg actctgggaa cctttcatca ttaaaaaaag ggggaccatt 3360
ggggcctgag ccaaggaact ttccttctac tgccttatag tgcttaaaca ttctccgcct 3420
ccagggtgca gattcagagc tggccagagt ttcagtata gccgtatgtt aaacagaatc 3480
tcacctcagt ctcttgagg gagatgttta agaggggtta acacatcaga tgggagggtc 3540
agccccgtga cctctaaggt atcttctaac ctagaaattc accataatta tgggtgcaagg 3600
tcagtgtgtc tctgagatct atgtctgttg gtggcaatgt gaggtgata ctctctcact 3660
ctaataaact tggcacttct ccgagt 3686

<210> 715

<211> 3505

<212> DNA

<213> Homo sapiens

<400> 715

aagcaagtgc tgcagagggc agagggaagc atggcccagc tgccccacca ccacgtccca	60
gagcctgcct tcaggaagct ggtggaggac gcactgggcc ggacgagtaa ccagcttcgc	120
tcctttcaag agacctttga gaaagtgcag ccacctccca ccacacaact gtccttcca	180
gggtctgaac gccaggtgca ggctctcctg agcaggtatg gccctgggaa gctgtaccag	240
gtgacaagca acatcagtgg gactgggact ctggacctga ctctgcctcg gggccaaatc	300
gtggccatcc ttcaaaacaa ggacaccaa ggcaacagcg gccgctggct ggtggacacc	360
gggggacatc gtgggtatgt gccggctggg aaactgcagc tgtaccatgt ggtccccagt	420
gcagaggagc tcagaaggca ggcggggctg aacaaagacc cccgatgtct aacaccggag	480
cccagcccag ctctagtgcc ctctattccc accgtgaacc aggtcatagc cgcgtaccct	540
tttgtggcca gaagcagcca tgaagtgagc ctgcaggcag gccagcctgt gaccatcctg	600
gaggcccagg acaagaaggg gaaccctgag tggagcctgg tggaagtga tggacagagg	660
ggttatgtgc cttctggctt cttggccagg gctcggagcc cagttctgtg gggctggagt	720
ctgccctctt agggtagcct ctttggagcc tacattgcca aatgatgggg gaggcttaga	780
ggctctgacc ctggggggaa aagaagcaaa ggaaagggtg aggtggaagg gaagaccagg	840
ccagggtggg tgaagcacac tcaggaggca gccagaagac atgggcgggc ctcgcagagt	900
gcttggtgtg gtggggggcac aggaggctcc agccaggact gtcattatg tctgcataaa	960
gaactcattc cgacctgggg tcacaatgca cttggacagc aggtcacagc tgattggcca	1020
ggactctcca caggttatgg ccagtcttag ctgtgcctgc atccgggcct gcctgtgggc	1080
gtgggtcaca cgggataatg ttacctgcgt gctgtgtggt tgcaggaagc gggttctgga	1140
ggagtccaga actgcctggt cagacagttc acttcctaca catggtatca ggagacatca	1200
taaccaatga gtcagctttt atttctctat gctggaagct gagtttatct tgggcagtga	1260

cccactggga gccctctcaa gtggggaagc catggattta tcggtgtagc agagaggttc 1320
ccaagactct tgactgggcc tgggagtggg tgtgaccaag tcatagttct ggaatgtgtg 1380
taggcaaatt cagaggctgt tccaggaag aggggatttt gatactgtgt taggtgtggt 1440
gtgtgaggct gttggcagca ggtgaacagc tactgctgtg ttctcaggac tagggaacaa 1500
aggggtatgc aaatcataga ggaaactctg ggaaggcggg gataaggcct ggtgggtggg 1560
gaggtaggg aatggcttgc ttctctgttt ctggtagaa ggggagccag ggggaacccc 1620
cagtggtttc aggtggcccc tgaggtcctg gaggcagccg tggatgtgat gcaattggct 1680
gtgggacctt agatgtagga cacaacttca gtgttcccat ccagaaagac ctactcaca 1740
gggttgtgct gagaatgacg tggggctaag catgcagagc tccctgtaaa ctgtgaagtg 1800
tgatacaaat gtaaatagaca gcagtgatct cggggtggcc cccggcatgc tgccctcccc 1860
cacgccccatg cctgtggcag caaaccttgt tcatcagtat agctttcttt cctgtaaccc 1920
aggatctacc ttggggggct tctcaatact gcattctatg tagccagcct ctttaacttg 1980
gtaagtgagc caccctatc tagaacctgg aaattggagc ccctcaaaaa cagttcctgt. 2040
tcaaggagga ctgacctgct ggggcaatgt tgggtgcagt gcagtccctg cttggggtgg 2100
tcatgtctag gctgttgctc tgggcaaaga taagttgcaa gattcacaga aatgggaaaa 2160
tgtgaccaag tgtgatctta acaactgaca aagtttgtaa ccaaccaag ttagaatgtg 2220
tgtcaaacag gaggtagttt agatatgctt ccaagaacat gtctgtgtta taaccatagt 2280
gcctaagcag tgagctctgg tttttgaagg gcttttaaga aatatataca tgtctgtgtc 2340
agtctataac ttgcctctc tgggcctgtt aaagcatgaa gactgcatga cacaagagaa 2400
atgcaagccc tacggttcct ttctcagcag cgaattcact tgagaggatg ctcttgactc 2460
attctctctg ctctttctg ctgagatttc tgataaaaat agagagcata ggggaacaga 2520
taatgaaata ggaaaccac tcgtgggttc cacagatacc taccgaaggc ctactgtgtg 2580
ctagaattgt agctcaggag ttctcagtgt agctgctcac tgaagttacc atggcaggtt 2640
tcaactggca gaatccaggc tccgtccac ccagagattc tgatgaaatt ggtttagggt 2700
gtggctcggg cctcaggaat tcagaaagct tcccaggtgc ttccaatgtg cagccagggt 2760
tagggacctc taccctagac acaaagtatt ggacagatag acctggtgcc agagatggcc 2820
atgagctgta agctaggacg tgccccacct gagctctgca ctagctagtt caaacaggcg 2880
ctttaaaggc agtgtgaaag gggacagcct gttctgccag gtctcagaat gtatatattat 2940
taagtgccat taaaaggac ctgaacaaaa ttggatgtct tgtaggcata agggaggaaa 3000

ataaaatata cttggaacca agtctatgtc atgaagggaa aataaaaatg tattcagtag 3060
cacgtgggtt atggttttctc atagaccagg ggataagatt aaaagtcact gaagagtggg 3120
aaaatgcatg ttgagaagat gagaatggcc tgtattttct ccaggggaat ctgtgtaatg 3180
tgccttttcc ctctccaaat gcctagaacc atggcactgt gtcttattta ttttaaccgtt 3240
gggctgtctc atactaaact tgcaaagata tttgcctatg aactgaacaa gacttccagg 3300
agttgaagtc tggttcaciaa gggtagccct tgcctcctgt gatggagtga gaactcttaa 3360
accctcagg ccccaactca gttgtggaga tgagggcaag attacaatat caaaagaaag 3420
atgaatgaat tcttggttaa tatgacgaac ccagctcaa tgagtaactg atgtgaactg 3480
ctgggaataa aggacttcaa agatg 3505

<210> 716

<211> 3397

<212> DNA

<213> Homo sapiens

<400> 716

ctctgctaag atggagcctc tgtttctgca tttatgcatc attggggtgg gaaactctgt 60
ttcctttttt ctagaccttt ctcttctgc tgccttctg aaggacctca tcccccttc 120
tccccctatt ggccgtgata gtccacaggg aacgtcagcc ccagcgcagc ttgtgctgag 180
accaccatgg ccctgtggtg cgggtcttct ctcaggcctt gcgtgctcac tacagaggtc 240
tggggtgttt ctgcagggtt ttctcctcca ctcagcacgt ggagagatcg cccatggcat 300
ggagagatgg cccagacca cagagacctc gccgcataga ggatttgccc agaccctag 360
accccgccac gtgaggaggt caccaggcc cgtagggtc ccgtggtgtg cggaggcgca 420
gaacaagctc aggagtctgc tgacctggtg cgccacaccc cggggaccgc cagtgggcgt 480
gttcgaggct ccgtgacca gggcgctgtc aggtctggtt cgggcagcgg ctttgcctct 540
gtgatagggt tccgtccct ctttcttct gtgtccctc tacactagcc taagggaagt 600
cagtttcctt ttttaataa attttaattt ttgtagatac atagtaggtg tttatgggtt 660
ataggagata ttttgataca ggcaggcaat gcgtaataat cccatcaggg taaatggagt 720

atccatcccc tcaagcattg atcctttgtg ttgcaacaat ccaattatgc tcccttagtt 780
atTTTTTTaa cgtacactta aattactgta gtcacccttg tactagcaaa cactaggtct 840
tatttgttct atTTTTTTTT gtaccatta ccatccccac tccatcccc actactgttc 900
ccagcctctg gtaaccatcc tcctgtcttc catctccatg agttcagttg tttaaagttt 960
agctcccaca gataagtgag aacatacaat gtttgtcttt ctgtgcccg cgtatgtcac 1020
ttaacacagt gacctcagt tccatccatg ctgttgtaaa tgacaggata ccattctttt 1080
ttatggccga agagtactcc atcgtgtata tatggcaatt ctttatccc cttgtctgct 1140
gatggacact taggtggctt ccaagtcttg gctgttgta acagtgtgc agcacacacg 1200
ggtgtgcagt gatctctgat agactgattt ctttctttt ctttgagta tatactagg 1260
catggattgc tgcgttgtat ggtagctcta tttttgttt tttttagaa acctcaaact 1320
gttctcccta gtggttgcac tgatgtacat tcccaccaac tgtggacaag gggtgaggga 1380
agttaatttc atggtaacac caagcctttc cttttgtca gtttctgttc ttatgatcat 1440
tcattagaag gcagattcac tgaagaatgt cgttttacct agtttaaact ggctagattc 1500
ttttcaaggt tacaattttg aacccacct tgtcccctga gtcacgagg tagcccaaga 1560
taacggttaa gaggaacat ctttgtgtt ggcagcaaat tgttctccag tttctgttaa 1620
gtagtgtccc ttgcaggtga ggagaggctg ctttcatcct cagcaggtag agaccgggga 1680
gtcggaccag cggaaatcct cacctcctgg ggtgggccgt gtggggagtg ttaactggca 1740
agacgatcta aattctctac ccagatcaca gcggctacag cagctttgct ttcagagaag 1800
aaaacacaaa aaaaagtgcc caaaagttaa aaagcaagtg gtaaaaccgg gaagcgacac 1860
gttgacaaaa acgtatttgg tacgttaaaa aggccagaag cacggtgcc tgtaggaatg 1920
agactgacat cttcacaaaa ggtcatcatc agtctcatgt gacattctcc atgctttttt 1980
ttaaagacag ggtctcattc tgtcaccag cctggagtgc agtggtgcag tccctggtca 2040
ctgcagcctt gacctccag gctcaggtga tcctcccacc tcagcctccc aggtagctgg 2100
gaccacaggc gcacaccacc atgcccagct aatgttttgt atttttgtag agatgggggtt 2160
ttgccatgtt gccccagctg gtctctaact cctgggctca agtgaccac ctgcctcggc 2220
ctcccaaggt gttgggatta caggcttgag ccaccgtca atcccagaag tgttgggatt 2280
acaggcttga tgcttttctt aaaaaacata ttccccatgt atgatgtctg cagatacttc 2340
aagaacatca taaacaccac tttcaccatc agctgggagc agagtccctc cccattcact 2400
gtcgccccac gccataggga cttggtgatg tttacagtgt gtccctgtgg gcgaacggga 2460

taaggaaaag atggtgcaca tacactgtgg aatactacgc agccgtaaaa aaagaaccaa 2520
 atcatgttgt ttgcagcaac atggatacag ctggaggcca ttatcctaag tgaattaaca 2580
 cagaaacaga aaaccaaata gtgaatgttt tcacatatcc tggccaattt ggagcaaggc 2640
 ttagcagaag acggcggcat gagcagcgtg actcaggagg gcagacaagc ctctatccgg 2700
 ctgtggaggt cacgtctggg ccgggtgatg tactccatgg caaactgtct gtcctgatg 2760
 aaggattatg tgctggccgt ggaggcgtat cattcggtta tcaagtatta cccagagcaa 2820
 gagccccagc tgctcagcgg catcggccgg atttccctgc agattggaga cataaaaaca 2880
 gctgaaaagt attttcaaga cgttgagaaa gtaacacaga aattagatgg actacagggt 2940
 aaaatcatgg ttttgatgaa cagcgcgttc cttcacctcg ggcagaataa ctttgcagaa 3000
 gccacaggt tcttcacaga gatcttaagg atggatccaa gaaacgcagt ggccaacaac 3060
 aacgctgccg tgtgtctgct ctacctgggc aagctcaagg actccctgcg gcagctggag 3120
 gccatggtcc agcaggaccc caggcactac ctgcacgaga gcgtgctctt caacctgacc 3180
 accatgtacg agctggagtc ctcacggagc atgcagaaga aacaggccct gctggaggct 3240
 gtcgccggca aggaggggga cagcttcaac acacagtgcc tcaagctggc ctagctgcct 3300
 ccaacacact acgtcagaag gacccgggtc tttgaaactg tgtcttgaag ctaatgtatt 3360
 aatgtgacat ggaggaactc aataaaactc ctgcttc 3397

<210> 717

<211> 3815

<212> DNA

<213> Homo sapiens

<400> 717

ttgatgccgt cacaggtgag tcaaaagaga accaactagg gacgtactgg aagggtgaac 60
 gtccctggat tcagatgttg gacctggcgt ttgggggtgta aagatgctca gtaaagcagt 120
 gtgtgggtga gcgttcacga tcccaaacac ggactgttca gcaaaacctg acatccatct 180
 cagaggtggg aaaagccttg actttggctg acagggttta agtctcccga agagtttctt 240
 ggggtgcgga tattttcatt tgtctcctga gatagccatc ttcttcccct atttctgctt 300

catgatgaga acgttctaga tatgatgacc ctgtcttgct tggcactgct tgatgcatcc 360
catcagacag caaacccctg ggtctgcagc tgcgctcaca gccgcagagt gcagttatTT 420
ttttctttcg cacgatgggt taaagtggcg gcatgcagcc tgtggcctga atgaaatcct 480
gtggcctaata tgaagaagaat gtgttttggc atccagtcac tcaaaaaaag aagaaagtga 540
agaccgtgtt gcagggctca tgggcatgtg acggggcggc tagaggaaag ggcaggcggg 600
gctggcagct tggccttcca gagccgcccc ttctcctggc acagggaaga gcctgaaacc 660
ctttgagctc gtgtcttgtc aggtcctcat gttcattctc cactcttctg tgcctcggag 720
tcagcatctg gaattccgct tgttttttct ggaaaggacc attgctgggtg ggaaggggca 780
tcaggagatt ctccttgatg ttcttttctg cttaggcgtc gggatcagaa aggagtggct 840
ttggaaatgt ggccgcaggc caggaattag tgatgatctt tagaagcact tctgcggtta 900
ctgccgctca aggatctgtc agggctctcta tggccatgcc ccaaggacac ggcgatggct 960
ccgttggcac ctccagtctg tggccctgcc aggggtgggtg tgtcaggagg gtctctgtgg 1020
ccacaccccg aggatgttga tggctctggg ggccgctccg gtccgtggcc ctgctggagc 1080
gggctgattg tcccagggtg gtgctgctcc tgtacctgcg ctggcagctc aagatggttg 1140
acttactctt atccaaaacc ccaggagaag gggatgatgc gtccttacc ggcttcaaag 1200
gctcaatttc gaagtcattt tccatgattt cgtagctgaa ttatctgcag cgtgtttgcc 1260
tcggatgcac tctcagagga gggctccatgg agcttgcaac tcatccatgg tggttctgtg 1320
ttctctgctg aatccacac agcggaggga ttgtcaggct ctcacaccct tgggctgacc 1380
tctagtggga tgccacgtct gtcacagaga gcgcagcctt gaggtccctc ctctcctggg 1440
agtctcatag gatgtccttt ttgtctgggg tcttgggtgtg actgatactt tcccgaatac 1500
ctctggccat tttttttttt tttttttgag ccagagtctt gctttgtcgc ccaggctgga 1560
gtgcagtggc gtgatctcag ctactgcaa cctcctcctc ccaggttcag atgattctct 1620
tgctcagcc tcccagattg ctgggattac aggcatgtgc caccatgcct ggctaatttt 1680
tgtattttta gtagcgacag ggtttcgccg tgttggccag gctagtcttg acctcctcaa 1740
gtgatccacc tgctcggcc tcccaaagta ttgtgattga gggtaggagc caccatgccc 1800
agcccagagg cacttttcaa aagacagatc tggaccccc cccaccccggt caccctctgc 1860
ctaaaactca ggcaggatga ccacatggcc ggcctcacac tcctgctcct acagaactgt 1920
gaatggcgcc ctgttatact agaagaaatg acccagctcg gacagtgcac catgtgggtca 1980
ctcacctctt aggaagaaag ccagcacctt cactgtgcc ctcaggcctg gccccagacc 2040

ctgttgccctc ccgtcccagc tgcaggggcc tctttcaggt cctcgggtgt gtcagctccc 2100
tctgtccctc tggcctgggg cctcttttct cttctttcat gtctgttggt cctacgcctc 2160
ccatctccat gcagggtcgt atccttgggg gatgcgacct gaccttctgc agagccactt 2220
tccccctctg gtagcacctc cgaatcacia agtattcact gaatgtgtgc acggacgatg 2280
gcggagcaga gctgggtgct ggcttccggc agcccgggcc tggctactcag cagatgttcc 2340
ttttcttttc caccctgcct catagctgcc atgtcctttc cctcctgccc cctgacacca 2400
gtagtgtgcc ctgaccagc tgcctgacg tggcattccc ggggcatagc tcgggagcag 2460
agcagacaag agctcgtgct ttcactcctc tggaggtcag agtgttggtg ccaaggttct 2520
gctgggtgtg aggcaaacg cccctcaaag cagcttccat gaaatgggag ttcagcagga 2580
gagccctggg gtgtccctgg agggctgtga gcagcaggga gccccgggcc cctactctgc 2640
agcaccttct ttgcaccctg ctctgttggtg tctgtgtggt gtctggcacg cctctcccca 2700
aatccaagtt tatgtctcca ttcaggcgct cccctcctag atggagacag tatctcattc 2760
cagctccacg ttcttggtgg ggagaccagg gccccgggtc agtgggtcca gttgatgagt 2820
ggtgagcagt ggtgggggtg agggctctct ggtgcaagca tgagggtcat ggctccgcct 2880
tgcagccgac tggaagatta cctggaaaga aatgctcctc aggaaagcaa gcacgtgttt 2940
aaagggcgga acagctttta attcaggtca ctcttgctgc cctcttacct ctgtctgtgg 3000
tctggccgct gccccaggga cccagcagga gccccagaa ggctgtgggc tctgcgggca 3060
gagggactcc ctccagctgc caccctgtcc tccagctctg agaggaaaca acagcagggc 3120
cactgcgggg ccaagactgc agagtcatct ttgttgtcat gaccattccc aggaagccct 3180
gggaacatgg gtgtggaagg cctctaggca gcagtcgtgc cctgtgtccc taggcatgcc 3240
agaatgtaga aatgccaatg tttaggagta aaaattaaag agaaatcgct attgagcaca 3300
gcctccttga gtggtcagag tctgtgttg aattcaccca cacgcacccc ttttgtgctt 3360
cgcaggacat cgctgccggc tcccatgttc agcagaagcg acttcagcgt gtggaccatc 3420
ctgaagaagt gtgttggcct ggtgagtcg ggggcccgtg ttcacacatg gggctgcacc 3480
actgactcct gggaaggat tgcagtgtg gtggtttaag aaaatgcgct cttggccggg 3540
cgcggtggct cacgcctata gtctcagcac tttgggaggc cgaggtgggc ggatcacgag 3600
gtcaggagat cgagaccatc ctggctaaca cagtgaagcc ccgtctctgc taaaaattcc 3660
aaaaattagc tgggcgtggt ggaggcgcc tgtggtccca gctactcggg aggctgaggc 3720
aggggaatgg cgtgaacca ggaggcgag gttgcagtga gccgagatcg tgccattgca 3780

ctccaggctg ggtgacaaga gtgagattcc atctc

3815

<210> 718

<211> 3793

<212> DNA

<213> Homo sapiens

<400> 718

ttggattgtt tgatttctta ttattgagtt ttgggagttc tttatgtatt gtggatacaa 60
gttccttatt aggtgtatga tttgcaaata ttttcttcaa gcctgtagct tgttctttca 120
ttttcttaac aatgtctttt gtttttaatt tcaaagaaat ccaatttgtc aatattttct 180
tttacagatt atgcttttga tgtaagaaat ctttgcctaa cctaagtcac aacaatattc 240
tcctagaagc ttagaaatt tcaatctgta atgatcaatt ttgaactcgt ttttatattt 300
atttatttat ttattctttg agatggagtc tctctctgtc gcccaggctg gaggtgcaatg 360
gcactatctt ggctcactgc aacttccact tcccagggtc aagcgattct cctgtctcag 420
cttcctgagt agctgggatt acaggtgtgt gccatcacgc ccggctaatt ttttgtattt 480
tagtagagac agagttccac catgttgccc aggttggttt cgaattcctg agctcaggcc 540
atccaccgc ctcggcctcc caaggtgcta ggattgcagg cgtgagccac catgcccgcac 600
ccagaactta tttttaaata tgggtgtgagg catggagcaa agtttacttt tttacatgtg 660
tttacccaat tgttcctca acatttgttg aaaagacatt tctccactgc attgttttat 720
gtctttgttg aaaatcagtg ttttttggga ctcttgattc taacgttcca ttgatgtttg 780
tcttgattta tttttttggc cttgaaacaa caatttatat tcatctctca tgatattgga 840
ggttggccag gttcagctgg gcaattctta cttgggttct ctcattgcatt tgcagttgga 900
tgatggctgg agcagcaatc tggaggctca aggaggctga aggccacata tgactccttc 960
atttccatat ctagcacctc agtggagtag gctggaacag ctggggaatg attgagcttc 1020
taattctctc cctacctcct atctatgtgt ctagttttca cttcttcaca gtacggcatt 1080
ctcaggaaag tcagacttct tagtagtggc ttaccctaga atgacttttc caaaagcaca 1140
tgtttcaaga gaccaggca gaagctgcaa agtttcctgt gacctagctt acacatccta 1200

tagtttcttt tgccatattc tgtaaggaaa gcaagttgct atggccagac caggttgaag 1260
gagaagggtta tgagactcta cctctcgatt tcaggagcat tattacggag aggggaaggat 1320
tgttggttgc ttctgtataa gcaatgccaa taatagaagg ctccactgtc ctgattaatg 1380
tagctttata acaagtctca aaatcaagca atgttagtcc ttcaactttg ttcttccttt 1440
acaaagttgt ttgactgtg ctaggtccct tccatttaca ttcgaatttt agaatcagtt 1500
tgtcaatttc taccaaaaag aaagcccata tgaaattttg atcaagattg cattgaattt 1560
atggatcaat ttaatgagaa cttacaattc aaattatttt aagatcaatt tggtgaaaat 1620
ttacacctta aaaatattga gtcttttgac ctatgaacct acttaggttt tctttaattt 1680
attttagcaa ttacattata attctcaatg tatagatctt tctatctttt atcacatttg 1740
ccctatttta tacgttttga ccattataa atggatattt taaattttca atttccggtt 1800
gttctttgca agtatataga aacataattg atttctgtac attagcctta tattctatat 1860
ttttgctaaa gtcacatttt tagttctagt agtctttttt tcataggatt ttctgcatac 1920
acactcatgt catctacaaa taaagatggc ttttcttctt tatttccaat ctcaatctct 1980
tttgtttcca tttcttgctg ttgactgga tagcaccttc agtacaatgt tgaatttggtg 2040
agagtttctg atcttaagag gaaaacactc agtctttcac cattaagaat gatgttacct 2100
ataggctttt catagatgtt cccttagcag gttgaagaag tttccatcta ttcttagttt 2160
gctagacttt ttatcaggaa cgtttgctga gttttatcaa attttttctt gcatctattg 2220
agacatgcaa tcttctagt ccatcatttt acaagctcaa gtgaagtgtg gggcacttac 2280
ctttctttac gtctactat cctctctgtt tataatataa ttgcttaaatt attttctctg 2340
catatattta ggatcacatt agatagttat aatttttact tcaactgtca acataattta 2400
gaaaagtcca gtgaagaagg aaagtctatt atacatacca atatttttgc ttactattat 2460
gttaatatgt tctttcttcc ttactgatgc tccaatattc cttcctttac tgtttgcttt 2520
ttgtttagaa aactttttt tagctgttca tttatagtat gtctgctggg gacagatact 2580
tttagttttc cctctcctga gaatgccttt atttccattt tattcctgaa ggacctgtga 2640
ttgggggtggg gctgtgggtat ttttaagtgg gtttggctag agtggagcgg ttattgccca 2700
aagcttttct gtcttgctgg gctgccactg tccagctcct taggctggag agagcaggct 2760
tttgttgggg ccttcttggt ctcatgttga atttctgagt tcagtttctt caactatata 2820
tctgggatat acaagacaga aagaaaccag ggcactctcc accatgttgt tcctccagtc 2880
tcaagatctc tagacagtct gtcttctctc catctttcag agtcttcttg tgcattgttt 2940

ttatataaca tctacacttt ttagtggcgc ttagcagaag caatgggaca agtatgtcta 3000
ctgcagcttt ctggaagaga agctcctcat ttcttttttt ggatacattt caaaagaagt 3060
tgcaaatata tgacctaca catttcagta tgcatatcat taactacagc tcaacattag 3120
tttatatttt tctttttctt gtgtgagatg aaaactatac atacattgcc atcaggcttt 3180
gcccaggcat cagaactcac tagacagcag aatatacatc tttgagagga accacagaaa 3240
tgtaatgtgc atgctaaggc ttttacctga acatcaaaat ggaaacatca gagtattcat 3300
attagagagc aaccttaca ttataatgga tgtggtaagg ctttttaaaa aatcaatgtt 3360
caaagacata gaatcaacca aaatggccat cagtgataga ctggataaag aaaacgtggt 3420
acatatacac catgggatac tatgcagccg tagaaaggaa cgagatcatg tccgttgcag 3480
ggacatggat ggagctggaa gccattatcc tcagaaaact aaccaggaa cagaaaagca 3540
aacaccacat gttctcactc ataagtggga gctgaacact gagaacacat ggaaccaggg 3600
agaggaacaa cacacactga ggcctgccac tgcaggtggg ggttcagggg agggagagca 3660
tcaggaaaat agctaatagca tgtcaggctt aataagtagg tgattggctg ataggtgcag 3720
caaactgcca tggcacacgt ttacctatgt aacaaaccta caaatactac acatgtaccc 3780
cagaactaaa agt 3793

<210> 719

<211> 3850

<212> DNA

<213> Homo sapiens

<400> 719

ctccccgggcc gccgcgatca tgtcggacca ggcgcccaaa gttcctgagg agatgttcag 60
ggaggtcaag tattacgcgg tgggcgacat cgacccgcag gttattcagc ttctcaaggc 120
tggaagcg aaggaagttt cctacaatgc actagcctca cacataatct cagaggatgg 180
ggacaatcca gaggtgggag aagctcggga agtctttgac ttacctgtt taaagccttc 240
ttgggtgatt ctgtccgttc agtgtggaac tcttctgcca gtaaattggtt tttctccaga 300
atcatgtcag attttttttg gaatcactgc ctgcctttct cagggtgttg atacaagctg 360

gagctctttg ttggagtctt ccagagctct cccagggaga ggtaggggaag ggagcttgtc 420
cagcagaagt tgggaagcac agagatcatc tgccttcttc tgacccggta ttgatgcagg 480
ctgaggcctc tgttgtaatg tgctgggtgt catctgaaga cagaagtgcc ctgtgggctt 540
tggttacgtt ctatggggga gattgccagc taacctcaa taagaaatgc acgcatttga 600
ttgttccaga gccaaagggg gagaaatacg aatgtgcttt aaagcgagca agtattaaaa 660
ttgtgactcc tgactgggtt ctggattgcg tatcagagaa aacaaaaag gacgaagcat 720
tttatcatcc tcgtctgatt atttatgaag aggaagaaga ggaagaggaa gaggaggagg 780
aagtagaaaa tgaggaacaa gattctcaga atgaggtag tacagatgag aagtcaagcc 840
ctgccagctc tcaagaaggg tctccttcag gtgaccagca gttttcacct aaatccaaca 900
ctgaaaaatc taaaggggaa ttaatgtttg atgattcttc agattcatca ccggaaaaac 960
aggagagaaa tttaaactgg accccggccg aagtcccaca gttagctgca gcaaaacgca 1020
ggctgcctca gggaaaggag cctgggttga ttaacttgtg tgccaatgtc ccaccgtcc 1080
caggtaacat tttgccccct gaggtccggg gtaatttaat ggctgctgga caaacctcc 1140
aaagtctga aagatcagaa atgatagcta cctggagtcc agctgtacgg aactgagga 1200
atattactaa taatgctgac attcagcaga tgaaccggcc atcaaatgta gcacatatct 1260
tacagactct ttcagcacct acgaaaaatt tagaacagca ggtgaatcac agccagcagg 1320
gacatacaaa tgccaatgca gtgctgttta gccaaagtga agtgactcca gagacacaca 1380
tgctacagca gcagcagcag gccagcagc agcagcagca gcacccggtt ttacaccttc 1440
agccccagca gataatgcag ctccagcagc agcagcagca gcagatctct cagcaacctt 1500
acccccagca gccgccgcat ccattttcac agcaacagca gcagcagcag caagcccatc 1560
cgcatcagtt ttcacagcaa cagctacagt ttccacagca acagttgcat cctccacagc 1620
agctgcatcg ccctcagcag cagctccagc cctttcagca gcagcatgcc ctgcagcagc 1680
agttccatca gctgcagcag caccagctcc agcagcagca gcttgcccag ctccagcagc 1740
agcacagcct gctccagcag cagcagcaac agcagattca gcagcagcag ctccagcgca 1800
tgcaccagca gcagcagcag cagcagatgc aaagtcagac agcgccacac ttgagtcaga 1860
cgtcacaggc gctgcagcat caggttccac ctccagcagc ccgcagcag cagcagcaac 1920
agcagccacc accatgcct cagcagcatc agctttttgg acatgatcca gcagtggaga 1980
ttccagaaga aggcttctta ttgggatgtg tgtttgcaat tgcggattat ccagagcaga 2040
tgtctgataa gcaactgctg gccacctgga aaaggataat ccaggcacat ggcggcactg 2100

ttgacccac cttcacgagt cgatgcacgc accttctctg tgagagtcaa gtcagcagcg 2160
cgtatgcaca ggcaataaga gaaagaaaga gatgtgttac tgcacactgg ttaaacacag 2220
tcttaaagaa gaagaaaatg gtaccgccgc accgagccct tcacttccca gtggccttcc 2280
caccaggagg aaagccatgt tcacagcata ttatttctgt gactggattt gttgatagtg 2340
acagagatga cctaaaatta atggcttatt tggcaggtgc caaatatacg ggttatctat 2400
gccgcagcaa cacagtcctc atctgtaaag aaccaactgg tttaaagtat gaaaaagcca 2460
aagagtggag gataccctgt gtcaacgccc agtggcttgg cgacattctt ctgggaaact 2520
ttgaggcact gaggcagatt cagtatagtc gctacacggc attcagtctg caggatccat 2580
ttgcccctac ccagcattta gttttaaatc ttttagatgc ttggagagtt cccttaaaag 2640
tgtctgcaga gttgttgatg agtataagac tacctcccaa actgaaacag aatgaagtag 2700
ctaattgtcca gccttcttcc aaaagagcca gaattgaaga cgtaccacct cccactaaaa 2760
agctaactcc agaattgacc ctttttgtgc ttttactgg attcgagcct gtccaggttc 2820
aacagtatat taagaagctc tacattcttg gtggagaggt tgcggagtct gcacagaagt 2880
gcacacacct cattgccagc aaagtgactc gcaccgtgaa gttcctgacg gcgatttctg 2940
tcgtgaagca catagtgcg ccagagtggc tggaagaatg cttcaggtgt cagaagttca 3000
ttgatgagca gaactacatt ctccgagatg ctgaggcaga agtacttttc tctttcagct 3060
tggaagaatc cttaaacgg gcacacgttt ctccactctt taaggcaaaa tatttttaca 3120
tcacacctgg aatctgcca agtctttcca ctatgaaggc aatcgtagag tgtgcaggag 3180
gaaagggtgtt atccaagcag ccatctttcc ggaagctcat ggagcacaag cagaactcga 3240
gtttgtcgga aataatttta atatcctgtg aaaatgacct tcatttatgc cgagaatatt 3300
ttgccagagg catagatgtt cacaatgcag agttcgttct gactggagtg ctcactcaaa 3360
cgctggacta tgaatcatat aagtttaact gatggcgtct aggctgccgt gcatgtcgac 3420
tcctgcggtg cggggctggc tgtctggctg gcgaggagct gctgcgcttc cttcacatgc 3480
tcttgttttc cagctgcttt cctgggggat cagactgtga agcaggaaga cagatataat 3540
aaatatactg catcttttta agatgtgcaa ttttattctg aggaaacata aattatgttt 3600
tgtattatat gactttaaga gccacatta ggttttatga ttcatttgcc aggtttttaa 3660
atgttttcac aaaactgtta cgggacttca actagaaata aaatggtgta aataaagacc 3720
ttgctatctc taaattatgg atgttaaaga tttgaaatgt tttgtacttt gattatTTTT 3780
atttcttata ctctgttttc ttttatattg atatcttgcc cacattttaa ataaatgtac 3840

ttttgaactt

3850

<210> 720

<211> 4651

<212> DNA

<213> Homo sapiens

<400> 720

cgttccagtg aatgacaagt actccatggg ggaactacag gatccaaata gcaacaggat 60
tgcacagtgg ctggaagtgg tacctgagca aggcattgta gacctgtcct tccaactggc 120
accagaggca atgctgggca cctacactgt ggcagtggct gagggcaaga cctttggtac 180
tttcagtgtg gaggaatatg tgctgccgaa gtttaagggtg gaagtgggtg aacccaagga 240
gttatcaacg gtgcaggaat ctttcttagt aaaaatttgt ttaggtaca cctatggaaa 300
gccccatgcta ggggcagtgc aggtatctgt gtgtcagaag gcaaatactt actggtatcg 360
agagggtggaa cggaacagc ttctgacaa atgcaggaac ctctctggac agactgacaa 420
aacaggatgt ttctcagcac ctgtggacat ggccacctt gacctattg gatatgcgta 480
cagccatcaa atcaatattg tggctactgt tgtggaggaa gggacagggtg tggaggccaa 540
tgccactcag aatatctaca ttctccaca aatgggatca atgaccttg gagacaccag 600
caatttttac catccaaatt tccccttcag tgggaagata agagttaggg gccatgatga 660
ctccttcctc aagaaccatc tagtgtttct ggtgatttat ggcacaaatg gaaccttcaa 720
ccagaccctg gttactgata acaatggcct agctccctt accttgaga catccggttg 780
gaatgggaca gacgtttctc tggagggaaa gtttcaaag gaagacttag tatataatcc 840
ggaacaagtg ccacgttact accaaaatgc ctacctgcac ctgcgacct tctacagcac 900
aaccgcagc ttcttggca tccaccggct aaacggcccc ttgaaatgtg gccagcccca 960
ggaagtgtg gtggattatt acatcgacc ggccgatgca agccctgacc aagagatcag 1020
cttctcctac tatttaatag ggaaaggaag tttggtgatg gaggggcaga aacacctgaa 1080
ctctaagaag aaaggactga aagcctcctt ctctctctca ctgaccttca cttcgagact 1140
ggccccatgat ccttcctgg tgatctatgc catttttccc agtggagggtg ttgtagctga 1200